DOCUMENT RESUME

ED 194 692 CE 025 225

AUTHOR Byrne, Eileen M.
TITLE Equality of Education and Training for Girls (10-18 years). Collection Studies. Education Series No. 9.
INSTITUTION Commission des Communautes Europeennes (Luxembourg).
REPORT NO ISBN-92-825-0975-3
PUB DATE Jul 79
NOTE 90p.: Not available in paper copy due to small, thin print.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Access to Education: Adolescents: Career Education: Children: Educational Diagnosis: Educational Discrimination: Educational Opportunities: Education Work Relationship: *Equal Education: *Females: Nondiscriminatory Education: *Secondary Education: *Sex Discrimination: Sex Fairness: Unemployment: *Vocational Education: *Womens Education: Youth Employment
IDENTIFIERS Belgium: Denmark: France: Ireland: Italy: Luxembourg: Netherlands: United Kingdom: West Germany

ABSTRACT

Based on an in-depth inquiry undertaken in 1977-78, this report identifies the extent, type, and character of inequalities in the education and training of girls in the second level of education, ages 10-18. Chapter 1, Introduction, gives background of this report sponsored by the nine European communities: Federal Republic of Germany, France, Italy, Netherlands, Belgium, Luxembourg, United Kingdom, Ireland, and Denmark. Some of the more influential principles and issues that form an essential part of an excercise in diagnosis and remedy.are identified. Chapter 2, Analysis and Evidence, discusses barriers hindering the achievement of equal opportunity in education for both sexes, which are related to or part of the education system, including (1) structural and organizational, (2) curricular and extra-curricular, (3) psychological and developmental, and (4) social and environmental. These are discussed against the findings of the inquiry and analysis in the nine member states. Chapter 3 suggests some areas suitable for further study and some possible course of action to insure progress and development towards achievement of real equality in education and training. Two main dimensions for further action are, first, removal of barriers preventing equal education between the sexes and, second, furthering the promotion of equality through diagnosis, analysis, positive development programs, research-based inquiries, and retraining programs. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED194692

COMMISSION OF THE EUROPEAN COMMUNITIES

Equality of education and training for girls (10 - 18 years)

by Dr. Eileen M. Byrne

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

McGowan, D.
DG XII. A.I.

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE 025 225

COLLECTION STUDIES
Education Series No. 9
Brussels, July 1978

2

JUN 9 1980

LEGAL NOTICE

This document was prepared under the sponsorship of the Commission of the European Communities.

Neither the Commission of the European Communities, its contractors nor any person acting on their behalf:

make any warranty or representation, express or implied, with respect to the accuracy, completeness, or usefulness of the information contained in this document, or that the use of any information, apparatus, method or process disclosed in this document may not infringe privately owned rights; or

assume any liability with respect to the use of, or for damages resulting from the use of any information, apparatus, method or process disclosed in this document.

This publication is also available in

DA ISBN 92-825-0973-7
DE ISBN 92-825-0974-5
FR ISBN 92-825-0976-1
IT ISBN 92-825-0977-X
NL ISBN 92-825-0978-8

A bibliographical slip can be found at the end of this volume

© Copyright ECSC-EEC-EAEC, Brussels and Luxembourg, 1979
Printed in Luxembourg

Reproduction authorized, in whole or in part, provided the source is acknowledged.

ISBN 92-825-0975-3

Catalogue number: CB-NQ-78-009-EN-C

CONTENTS LIST

Page

FOREWORD III

PREFACE IV

CHAPTER I - INTRODUCTION 1

General background 1

Definitions 4

The case for educational equality 5

Focus on the second level 11

Fundamental Principles

Equal means the same 15

Antithesis - Inequality and Discrimination 17

The Aggregation of Inequality 18

Theory to Practice 20

CHAPTER II - ANALYSIS AND EVIDENCE 22

Where girls are in the system 22

Academic (pre-university) education, general education and length of schooling 24

Vocational and technical education 28

Structural and organisational barriers 38

Single sex or coeducation 38

Curricular differences between the sexes 40

Page

Sexism in teaching materials 48

Structure of the teaching force 49

Careers education 53

Social and developmental barriers 57

Third level education 59

Summary 60

CHAPTER III - THE WAY AHEAD 63

The removal of barriers 63

Positive Discrimination 67

Restructuring and retraining the teaching force 70

Research and enquiry - a development plan 71

Yesterday's pupils - Tomorrow's women 74

BIBLIOGRAPHY 76

FOREWORD

The achievement of equal opportunities for free access to all forms of education has been recognised by the Council and Ministers of Education meeting within the Council as an essential aim of the education policies of all Member States.

The particular situation of girls in the educational systems of the Community has given rise to growing concern in recent years. The persisting inequalities between men and women in employment and the disquieting rise in female youth unemployment are directly related to the inequalities in the education and training of girls and boys.

This report, drawn up for the Commission, analyses the extent, type and character of inequalities arising in the secondary level education of girls in the Community. The report makes an important distinction between the role of factors external to the education system and the role of the education system itself in removing barriers to equality. In identifying issues of direct concern to the educational authorities of Member States, this report will provide a significant contribution to reflections on the opportunity for effective action in this field.

The Commission is grateful to Dr. Byrne and to her collaborators in the Member States for their work in preparing this report.

GUIDO BRUNNER
Member of the Commission
of the European Communities

February 1979

PREFACE

(i) The sources of reference of this report include material published by the Community and by individual countries and written reports and statistics(1) prepared especially for this programme. It should be noted that those statistics for which the source is quoted as publications or reports of individual countries may not necessarily have a common base of comparability. In this they differ from those deriving from the Community's Eurostat publications which the Central Statistical Office will already have converted to a form more suitable for the purpose of reasonable comparisons.

(ii) Despite the length of this report, it will be obvious that it has still only been possible to touch the surface of a deep and complex problem. The rapporteur offers apologies therefore for omission of much valuable material, for an unavoidable selectivity of examples and for an occasional imbalance of policy issues. The report is in essence a discussion document, although it is supported by further statistical material now available for reference.

(iii) The rapporteur wishes to express her thanks for the co-operation of her colleagues in all countries in extracting and preparing special data and reports for the programme and in arranging meetings with appropriate experts. Without this co-operation the report could not have been completed within the agreed time scale.

(iv) It is hoped that the developments of some ideas here will have stimulated ideas among colleagues in member states. It will, meanwhile, be recognised that opinions and views expressed herein are entirely my own and in no way at this stage necessarily commit the Community to a particular view.

---

(1) In order to speed up publication, the statistical appendices relevant to each country have been omitted but may be obtained free of charge from the service Education Division, DG XII.A, Commission of the European Communities, 200, rue de la Loi, 1049 Brussels, Belgium.

CHAPTER I

INTRODUCTION

General Background

1.1 This report has been prepared in co-operation with the Directorate-General XII for Research, Science and Education, and in full consultation with the representatives of the Ministries of Education of the nine member states. It arises out of the recommendations contained in paragraphs IV - 20 and IV - 21 of the Resolution of the Council and Ministers of Education meeting within the Council dated 9 February 1976. Its principal purpose is to identify the extent, type and character of inequalities in the education and training of girls in the second level of education, that is the approximate age range of 10 to 18 years. It must be stressed that it is primarily a diagnostic report rather than a research survey as such, although it is based on an in-depth enquiry undertaken specifically for this purpose in 1977-78.

1.2 It may be helpful briefly to set the report's subject and recommendations against the origins of the initiatives which have led the Community to examine in more depth, problems of educational under-achievement in girls. These may be seen against a wider background of the current and acknowledged priority of attention to the two related issues of transition from school to work and of youth unemployment. The greater vulnerability of girls in both of these is unquestionably partly due to the nature and character of their (different) secondary education; and of their almost universal under-exposure to those forms of vocational and technical training in the second level of education which are supportive to later skilled employment (as distinct from home-based domestic economy or lower paid fields of work considered "feminine").

1.3 The Council of Ministers of Education agreed in Para. 20 of their composite Resolution dated *9th February 1976* the statement and principle that the achievement of equal opportunity in all forms of education is an essential aim of all member states, and that its importance must be stressed in relation to economic and social policies if equal opportunity is to be achieved in society. The Council further decided that, in addition to actions taken within member states, an

exchange of views and experience on concepts and trends should be organised at Community level in order to identify specific areas in which joint action might be undertaken.

1.4 The Council and Ministers subsequently met in Novemver 1976 when these issues were further debated together with proposals concerning the educational contribution to problems of youth unemployment, and the provision of further education and training to improve the chances of young workers and the young unemployed of finding employment. Following this debate, the Council and Ministers of Education adopted (by Resolution dated *13 December 1976*) an action programme which centred principally on measures to improve the preparation of young people for work and to ease the transition from school to working life. Among the actions recommended to be implemented at *Community level* which would complement national initiatives during the period up to 31 December 1980 was one which is central to the framework of this report; "*the design and development of specific actions to ensure equal educational opportunities for girls*" [Resolution III (1) (C)].

1.5 Later sections of this report will refer to such issues of principle as whether "equal means the same" or an equivalent, and the relationship of the achievement of equality of vocational training to later equal pay and equal promotion in employment. It could be argued that the principle that *equal means the same* appears already to have been accepted not only in the context of access to and promotion within employment but in vocational training for work. Article 4(c) of the Council Directive (of the Community) of 9 February 1976 on the principle of equal treatment for men and women includes a directive that :

"Vocational guidance, vocational training and advanced vocational training shall be accessible on the basis of *the same criteria and at the same levels*, without any discrimination on ground of sex".

1.6 A further relevant issue of principle is the distinction between *inequality* which arises mainly from passive factors like social class or status, inherited intelligence, demographic residence (in region, urban or rural environments) on the one hand; and direct *discrimination* from the imposition of active, administrative or structural barriers or limitations, or artificial (non-educational) differences of curricular options on young people, solely on the ground of sex, on the other. The Community could be said to have implicitly recognised this in issuing its Equal Opportunities Directive to establish anti-discrimination legislation in the field of employment including equal pay for equal work. The abolition of discrimination in employment will only be ultimately effective if discrimination in education and training is first removed.

1.7 During the same period as this Community initiative, the Standing Conference of European Ministers of Education resolved in June 1977 to adopt as the main theme for the eleventh session to be held in the Hague in 1979, "Education and Equality of Opportunity for Girls and Women". (1) Accordingly, a working party under the joint guidance of the Secretariat of the Standing Conference and the Netherlands Ministry of Education is preparing both a data report and an expert's report as part preparation for the 1979 Conference.

1.8 Similarly, the OECD has reconvened a study group on "The Role of Women in the Economy". The first report on this subject appeared in 1975. The OECD is updating its researches into the relationship between the education, vocational training and employment of women in OECD countries. Its draft report is nearing completion and pays marked attention to inequalities of education and training and their barriers to full equality in the employment sector. The Commission's Education Department has set up links, through its experts, with both the SCEME and OECD initiatives, in order to ensure effective co-ordination and co-operation on policy areas of mutual interest.

1.9 Finally, it is of interest that the Nordic Council of Ministers debated the problems of sex inequality in education in 1974, and issued a major policy statement on "Sex Roles Education". The five recommendations which appear to be most relevant to this report are :

"(i) authorities should comply with the goals of equality when planning and allocating resources for curriculum and teaching materials, organising instruction and awarding grants.

(ii) That the education system should be fully coeducational with complete access of all students to all subjects.

(iii) Vocational guidance should be used as an active tool to counteract habits and attitudes which contribute to separate sex roles; and should deliberately encourage non-traditional choices by both sexes.

(iv) The Nordic countries should work together to produce teaching materials reflecting equality between the sexes.

(v) Methodology of teacher training should include programmes geared to understanding how to ensure equal opportunities; and universities should offer basic courses in problems of sex roles."

Many of these issues, principles and proposals have also been raised in the evidence from the nine EEC member states during the course of the present research study.

DEFINITIONS

1.10 Since this is a *diagnostic* report rather than a research survey as such, examples of differential achievement between the sexes, or of different educational structures and practices, or of innovatory experiments, are mainly quoted as illustrations of principles or of problems. It would be, for the most part, inappropriate to use them for purposes of direct comparison between countries. Nevertheless, the conclusions do attempt to distinguish between those aspects on the one hand which appear common to most if not all countries; and others which apply idiosyncratically to only one or to only a few countries. This may be helpful in considering which further enquiries might be more suitable to pursue at Community level, and which might be more appropriately set up within individual member states.

1.11 The report is also restricted to the second level (first and second cycles) of education, or within the age range of approximately 10 to 18 years. The first cycle of second level education may begin as early as 10 years of age (the German Lander, except for Hamburg, Bremen and Berlin where transfer is at 12 plus); or 11 years (France, Italy's Scuola media; parts of England and Wales, Northern Ireland); or 12 years (Netherlands, Belgium, Ireland, Luxembourg, Denmark and Scotland). Far more complex is the introduction of the second cycle of secondary education which may begin as early as 14 or as late as 16 years. The specialised provision of separate secondary vocational training courses may also be introduced as early as 11 or 12 plus (Luxembourg and Ireland's agricultural schools, Netherlands' domestic science and industrial or technical schools, Belgium's type II technical and vocational schools); or as late as 14 or even 16 years (Germany, Denmark, France). In the United Kingdom all vocational training takes place in the further education (post school) sector. The age range of the girls who are the subject of this report spans therefore of necessity the full range from ten plus to eighteen years, that is wherever first and second cycles of second level education are provided in school, whatever the type and organisation.

1.12 This cleraly therefore also includes vocational training courses, technical education and specialist courses where these are provided in the schools' sector and not as part of further or higher education. Similarly, references to careers education, guidance and counselling should be taken as referring principally to the role of school and of staff dealing with the schools' sector, in guiding pupils' choice of curriculum, of second cycle courses or schools and routes of study rather than guidance in the direct context of designated future employment. The generally accepted distinctions between various forms of training in Community terminology are between :

(i) General school education

(ii) School vocational training

(iii) Basic non-school vocational training, and

(iv) Further vocational training

While the latter two are more specifically and strongly centred on the world of work, the first two are clearly central to this report. The third category provides the strongest illustration of the conditioned sex-typing of the secondary school system, which exports girl leavers and boy leavers in very different proportions and with very different bases to different basic vocational training schemes or training routes. Caution should be exercised in attempting any direct comparisons between training statistics between countries because definitions vary. Some countries (Italy) for example, distinguish between "general training" and vocational training while others (eg. France) have a stricter definition of "training completed".

THE CASE FOR EDUCATIONAL EQUALITY

1.13 The opening paragraphs establish a new scale of international concern about continuing educational inequality between the sexes. The reasons why this is a vital issue to tackle now - not in a hypothetical millenium after other issues seen to be more pressing have been solved - are four-fold. Personal individual justice for girls and women must remain the prime reason in all member states committed to social justice for all citizens. The already changing roles of men and women in society becomes a pressing second reason. Economic need is a third. Social harmony and stability is a fourth.

1.14 The last fifty years have seen major developments in educational psychology and in the development of an understanding of the interaction of social, developmental and motivational influences on the learning processes of children and young people. One of the clearest messages that comes through research in many countries in the last two decades is that differences of intelligence, of application and motivation, of physical or manipulative aptitudes, of social origins, and of inherited traits of mental and emotional character *within the sexes* are far greater than those *between the "normative" view of the sexes*. Neither males nor females are totally homogenous. In neither sex do 100 % conform to a pre-conceived model. To establish a *norm* it follows that up to 30 % can be "deviant" from the norm. It follows therefore that to design, plan or restrict any educational

system or programme on the basis of allegedly "normative" sex differences which override the many other differences within the sex outlined above, will automatically deny to some the opportunity of free individual development or choice. This is developed further below.

1.15 The case for attacking the many inequalities suffered by girls and women is often therefore presented as one of individual and social justice. This is fundamentally right. Nevertheless, it must be recognised that the under-exploitation of the talents of women is becoming also as much a question of economic investment as of personal fulfilment. Half of the brains of our citizens are in female heads. The pattern of the economic activity of women has been well documented elsewhere and the myth that women do not work (or do not wish to work) is being dispelled. But we should not lightly overlook the potential of the undertrained and underexploited 51 % (female) of the population to the economic rebuilding of our countries. The Swedish Government estimated some ten years ago that if all social *inequalities* suffered by women were removed, the country's gross national product would increase by 30 %, and if all *discriminatory* practices in the field of training and employment were removed, it would increase by over 50 %. (2) Whether the precise figures can be justified, the scale of female economic contributions should be weighed against the still widespread reluctance to invest in their further education and training.

1.16 The planning of secondary education inevitably reflects the social assumptions of the leadership of education and of the community in which schools are situated. It is a matter of fact, and not of subjective evaluation, that nine-tenths of those who govern and control education at the higher levels in most (if not all) countries are male. But men tend to see the world of work and economics as for boys. Apart from the general aim of personal fulfilment, secondary schools in the last quarter of the twentieth century should therefore see themselves as educating *all pupils*, and not only boys, for economic employment for part at least if not most of their lives. It is one of the tasks of the education service to produce the manpower and womanpower at the most skilled levels possible, and it cannot be accidental that those countries, world-wide, whose economic growth has been both the fastest and the most constant, are also those who have invested more in extended education and in education and training for the world of industry and commerce *for both sexes* and not merely for boys and men.

1.17 It may be argued that it is a waste of time educating more girls for the world of work if the employment field is in fact receding and in the face of increasing youth unemployment. Such an argument would run contrary to the fundamental purpose of individual education, contrary to the principle of human rights, and probably as contrary to men's interest as to women's. In the modern world, education should give both young men and young women the right of *choice* : choice to work full-time or part-time, choice to be the breadwinner or the principal home-based parent, choice to alternate roles at different stages of marriage and careers in employment or in government.

1.18 A fundamental tenet of secondary education for adult life must be not only the assumption of women's right to work and of girls' rights therefore to educational preparation for the world of work, but of the consequential duty of all young people - boys as well as girls - to share full responsibility for the domestic burden and for bringing up young children. The "dual role" of home-making and contributing not only to the family's economy but to the national economy should be recognised by all teachers as an educative need for the preparation of all young adolescents for adult life.

1.19 It is important therefore that the secondary education of girls should no longer educate them primarily for a domestic role. With the increase in modern labour-saving aids to household management, and the new attitudes beginning to develop in almost all countries towards the practical sharing of partnership in marriage and in the parenthood of the children, there will be an increasing place in the secondary curriculum during the adolescent years (from the age of about thirteen to seventeen) for concentrating the education of both boys and girls on the personal relationships in marriage and the home rather than on cookery, knitting and laundry, as well as in the world of work. Some, but by no means all, of the previously taught domestic skills may have a place in order to give boys as well as girls the choice of efficient survival in the adult roles most suited to their particular personal marital situation. In this context an important redefinition has recently taken place in the Federal Republic of Germany. Paragraph 1356 of the German Civil Law, under the old version, read :

"The housewife leads the household under her own responsibility. She has the right to work for gain as far as this is compatible with her marital and family duties".

The new version of paragraph 1356, however, more accurately reflects the needs of the twenty-first Century for which we are today educating our children, and on the arrival of which today's school leavers will still be under 45 years of age.

"Marital partners settle the management of household after mutual agreement. In the event that the management of the household is left to one of the partners, the latter has to conduct it under his or her responsibility. Both partners have the right to work for gain. When choosing and exercising their activity, they have to take into account in the appropriate way, the interests of the other partner and of the family." (3)

In *Denmark* also the legislative Acts on marriage are based firstly on the principles that the spouses are independent persons on an equal footing and that both have the same obligation to provide for the support of the family. Secondly, this is applied to the support of the spouses themselves as well as of the children. (4)

1.20 Such new attitudes, as they are seen increasingly to receive public and governmental endorsement, will become an important influence in eliminating the restrictive educative concept of different female and male adult roles. The influence of policy issues of this kind will, however, only be transmitted to girls and boys if teachers (existing as well as new trainees) are re-educated in turn to regard all pupils as individuals, and not as "the boys" and "the girls"; and to teach them real choice of roles which underlies the German and Danish legal statements quoted above.

1.21 There is one final causal relationship which should be spelled out in the context of the objective of improving the breadth and depth of the qualifications with which girls leave school by comparison with their male peers. That is the effect which this has on the later continuity or discontinuity of women's employment. Women who have no qualifications or a basically elementary education only are twice as likely to break their employment than those who have an academic or technical training. Of the numerous research surveys which cover the field of women and work, Evelyn Sullerot's study of French working women most strongly confirms this. It is summarized in essence by "plus la femme est instruite, moins elle a tendance à interrompre sa carrière". (5) Of her sample, only 12 % of those with a higher terminal diploma, but 28.6 % of those without qualifications, interrupted their working life at least once. Women with extended education, with skilled vocational qualifications, advanced education or technical training, both stay in and return to the labour market at a constantly higher rate than those without. Pascal Lainé (6) suggests that a relatively high level of qualification corrects substantially the negative effect of maternity on women's careers. Swedish statistics also support the correlation between higher levels of girls' education and women's later tendancy to remain in work as the following table shows : (7)

Sweden			
Percentage of women at work by level of previous education, 1970		Percentage of women qualified in selected professions who remain in work	
Less than 9 yrs schooling	54	Gymnasium teacher	44
At least 9 yrs schooling	61	Law Graduate	73
2-yr gymnasium course	65	Elementary school teacher	76
3 or 4 yr gymnasium course	65	Doctor	86
Up to 2 years Post-gymnasium education	72	Dentist	85
More than 2 years Post-gymnasium education	84	Civil engineer	95

1.22 Finally, it may be argued elsewhere that the time is not appropriate for major new investment in women; that this must await a (perhaps hypothetical) improvement in national or international economies; or even that the resources are not there. Such an argument, if advanced, could be specious or at least not related to the unusual if not unprecedented economic advantage which the shift in school and student population - downwards - now offers us, for redeployment to achieve these essential objectives.

1.23 There is fairly widespread evidence of a decline in real terms of the demands which will be made on the educational system for basic provision in terms of pure numbers. This is caused by the wide-spread reduction in the birth rate which has major implications for educational planning and for redeployment of resources. The decrease in the birth rate and therefore in the future school population ranges from over 44 % (F.R. Germany) and 37 % (Netherlands) down to 14 % (Denmark) and is characteristic of eight out of nine EC countries. (8) The redeployment policies which this will cause in terms of use of buildings, teaching staff, finance, will create a need for a clearer identification of educational priorities and of "risk groups", to ensure the soundest investment of our limited resources; and the most effective return for that investment. But they do offer an unparalleled opportunity for borrowing from the pool of financial and material resources partly freed from the pressures of school numbers, for interventionist new programmes both for girls and for the "lost generations" of women whose past education has been deficient. Table 1 gives the birth rate figures.

Table 1

COMMISSION OF THE EUROPEAN COMMUNITIES
EUROPE (9)

Decline in Birth Rate per 1000 Inhabitants 1960-1975

Country	1960	1965	1970	1975
Ireland	21.5	22.1	21.9	21.6
Netherlands	20.8	19.9	18.3	13.0
France	17.9	17.8	16.8	14.1
Italy	17.9	18.8	16.5	14.8
Denmark	16.6	18.0	14.4	14.2
United Kingdom	17.5	18.4	16.2	12.5
Belgium	17.0	16.5	14.7	12.2
Luxembourg	16.0	16.0	13.0	11.1
F.R. Germany	17.4	17.7	13.4	9.7

Source : Eurostat 1976 Education Statistics 1970-75, p. 51.

1.24 The only exception to this is *Ireland*, where the birthrate remains at the 1960 high rate of 21.6 per thousand, and the student population is expected to increase yet further in the 1980's. This coincides with a disproportionate rise in educational expenditure on schools and colleges because of a substantial curricular shift from lower cost literary and academic education to higher cost practical and vocational education at second level, and because of a complex but perceptible lessening of church financing of education (in terms of both capital and teachers' salaries). The recent and controversial Tussing report (9) analyses the problems of the next decade from which it is clear that any Irish reforms aimed in particular at improving the education of girls will need to be set firmly in the context of overall and pressing development plans.

1.25 Given the causal interrelations of the different stages of education, it may seem unduly limiting to restrict this report to the second level age ranges. Why not examine the whole educational system ?

FOCUS ON THE SECOND LEVEL

1.26 To attempt to study the entire range of educational disadvantage of girls from pre-school through to recurrent or second chance education in a report aimed at focussing on specific urgent priorities would however be abortive and strategically diffuse. Before developing briefly the reasons for focussing this study primarily on the 10-18 age range, a word of explanation is perhaps still needed about the formative earlier years of education. It is accepted that the importance of the pre-school and primary years cannot be over-emphasised. Even before entering school (which will vary from two to five for those children able to obtain a nursery school place; from five to seven for those entering at the age of compulsory schooling), the attitudes of girls and boys respectively have already been partly formed by their parents and by the feminisation of their early social environment. A significant series of mental, psychological and physiological developments take place before children pass the 7-9 years age range, and it will become increasingly important in due course to re-examine the sexism of the early school environment. The structuring of the primary school day to separate girls from boys for physical education or for crafts (elementary woodwork for boys, needlecraft for girls) already reinforces stereotyping of sex-roles. Teacher attitudes often differ towards girls and boys, imposing different expectations of behaviour from the two sexes. Teaching materials illustrate adult roles of women and men in traditional, different, and often discriminatory ways.

1.27 Even the basic organisation of the primary sector may need review in those countries who still retain some single sex first level schools. While in the United Kingdom, 99 % of all state primary schools are co-educational, in Ireland over a quarter are single sex, (10), while in the Netherlands 25 % of state primary schools but 64 % of catholic primary schools cater for girls only or for boys only. The character of the primary school's environment must be relevant to the acquisition of children's attitudes towards the expected roles of men and women. The teachers who teach them from two to about seven will also be either exclusively or mainly women. In some countries (France, Belgium) nursery and infant school teaching is confined to women. In others (United Kingdom) they are theoretically open to both sexes but men number fewer than 3 % of the total. Only in Denmark is the proportion of men entering nursery education rising - 11.4 % of all new entrants in 1977 (11). Children therefore lack a balance of adult models of both sexes and see childcare as a "feminine" role from the start. As a later section on the role of teachers illustrates, they will also in most countries already see more men than women in leadership roles.

1.28 It is noted that the Commission's Education Department has indeed already authorised a special study of pre-primary education with wider terms of reference than this report. Its findings will of course also be available as a guide to future action in developing new and less sex-conditioned approaches to the earlier formative years of schooling, which are considered strongly to influence the later and different attitudes of girls and of boys at the second level.

1.29 Nevertheless there is an urgent need to centre on the two stages of the second cycle of education. This is for a number of reasons. Firstly, it is at the first stage of the second cycle that in all countries sharp differentiation of timetabling practices is first introduced, and in most if not all, choices have to be made by pupils, often from as early as eleven years, either between types of schools or between different courses or streams of courses within schools. These often premature early choices almost certainly limit or condition later access to full and free educational opportunity in the second cycle. Some of the reasons which lead girls to have a poorer motivation than that of their brothers originate in the second cycles of schooling. Girls are less motivated towards the higher levels of educational achievement; towards technical education and industry; even towards later active participation in the central and local government of their country. The attitudes of girls, which appear to have their origins in the structure, in the curriculum and in the social influences of their educational environment, lead them to an expectation of a more subordinate and passive adult life. This in turn is derived from the different and largely sex-based (as distinct from educationally based) "choices" of different types of secondary schools, courses or future roles in society to which girls are encouraged or channelled.

1.30 It is equally in the age range from about 13 to 18 that almost all countries introduce some form of specific preparation for the world of work, either in separate schools offering courses of vocational training rather than a more general education, or in special courses within schools. It follows that if the achievement of full equality in adult employment depends on the abolition of the concept of "men's work" and "women's work", and on opening access to all forms of employment to both sexes, then the same liberty of access must apply to all courses of vocational training provided for young people under 18, which prepare for the later world of work, whether in general terms or by specific courses directly related to a designated field of employment. But equal access to work, to equal pay, and to promotion and advancement will be severely handicapped if girls and boys do not leave the educational system not only with equal qualifications, but with an equal base for later further education, training or retraining. Even in those countries therefore like the United Kingdom which defer work-related further education and training to the post-school sector, there still is a causal relationship between the type of educational qualifications and the character and level of the education which girls receive in the secondary years of schooling, and their ability to choose - or to qualify for - the same training or adult work as their male peers. The limiting effect of the curricular differences between the sexes which cause more girls, for example, to leave secondary schools without an adequate base in mathematics, the physical sciences or in technical drawing and the technical crafts, is therefore also examined in the main body of this report.

1.31 Within this structure of choice or "options" within the curriculum, the organisation of a separate education for girls further restricts their free development. Proportionately more second-level than primary schools are single-sex. The curriculum and vocational training offered to girls is not only more limited in range, but is markedly less relevant to the world of paid employment and of non-domestic activity than that of boys. Some countries moreover actually organise separate "vocational" training for girls solely on grounds of their sex within the school system.

This is almost universally centred on the domestic crafts or a kind of extended maternality (child care, nursery education, teaching, social work) and on a family-based or home-based framework; and not on the male-oriented world of productivity, decision making or industrial and commercial competitiveness for advancement. This is aptly summarised by Pascal Lainé as a conceived inwardness of defined feminine activity and an outwardness of the masculine :

"La première et la plus fondamentale division du travail ...est bien entre l'homme et la femme. Et c'est d'abord une division symbolique de l'espace, que toutes les cultures donnent pareillement à observer...

cette dichotomie entre le "dedans" féminin et le "dehors" masculin... Ainsi la vocation "domestique" de la femme paraît universelle, plus ou moins impérative, seulement, selon l'époque ou le lieu." (12)

The disadvantageous and far-reaching effects of this concentration on domestic economy in the education of girls is a central theme of the central analytical section of this report.

1.32 Thirdly, it is in the years of adolescence that the social and physical attitudes of girls and boys towards their later adult roles are most sharply influenced by the complexity of the female and male adult "models" in their life, which they tend to see as directly relevant to the kind of roles which they will play in the near future as they adjust to post-school life. Educational motivation and choices begin to be strongly conditioned by the social pressures and parental and family attitudes which reflect society's traditional view of the different roles ascribed to women and men.

Pupils have already absorbed the message of the feminisation of their early years of learning. Now they have to replace a simple world with the complex cross-relationship of self-perception and self-identification with adults of both sexes. The onset of full puberty - earlier for girls than for boys' - further complicates the secondary years. While one factor governing entry to different kinds of schools or courses is "suitability" as assessed by examination, by entrance requirements or by school records, an equally influential aspect of the beginning of second cycle secondary education is pupil-choice of different educational courses and different training routes. But at the very stage at which pupils' choice is added to pedagogic assessment however, other influences interact on girls of which the major one is social pressure to see their new "femininity" (as expressed in their earlier puberty) in non-active, in home-oriented and in "dependent" terms. Boys of the same age who catch up later in their personal development have already been alternatively conditioned to their perceived external "breadwinner" protective role, motivating them to aim at maximum adult economic achievement and hence maximum education and training which they see as a *tool* and not an end in itself. This heightens the need to look at the fourth dimension which makes the secondary years a more crucial area to examine - the nature and characteristics of careers education, careers counselling and vocational guidance.

FUNDAMENTAL PRINCIPLES

Equal means the same

1.33 Definitions of equality and of equality of opportunity have been traditionally difficult to establish by any widely accepted criteria which carry universal validity and common factors. This report however is based on the principle that in seeking to achieve equality in education and training *equal must mean the same* - not the questionable concept of "*equivalent but different*". It is perhaps necessary however to explain this in terms of our equal right to individuality in education and in training, in order to avoid any pedagogic or social misunderstandings.

1.34 In declaring that equal means the same, we are not of course saying that this implies that every child must follow either an identical curriculum, or a totally compulsory and common curriculum, regardless of intelligence, of individual aptitudes or of personal interests. Two principles however must both pedagogically and in terms of what we now know about child development govern the planning and administration of education. The first is that education must be offered to each child in accordance with her or his actual, not assumed, personal gifts and needs; not on any other pre-conceived "normative" basis; and not on grounds of sex. We no longer deliberately *prescribe* a different education for children of different social class simply because they are deemed to be aristocrats, middle class or in the poorer sectors of society. Similarly, there can be no parallel justification for consciously prescribing different curricula for pupils solely because they are boys or girls. The physiological differences between the sexes - mainly matters of reproduction and of sustained strength (although women tend to have more actual stamina than men) - are irrelevant to most if not all learning processes and to most if not all, of the contents of educational courses. Induced sex differences like behaviour patterns are conditioned and not innate. They should be counteracted rather than reinforced by schools, if they spring from an expected behaviour according to sex-group rather than from the expression of traits of an individual child.

1.35 Secondly, education should provide firstly and essentially for the *needs* of pupils and of society and not for desires or *demands*. Only when the basic central curriculum is equally guaranteed should we then desirably add an optional surround. To define a different *central* curriculum for girls and boys would be wrong; to deny either sex a totally free option or any particular subject area in the surrounding area of choice solely because of sex would be overt sex-discrimination.

1.36 It should be noted that over ten years ago this was regarded as a fundamental question. On 7 November 1967 the General Assembly of the United Nations adopted Resolution n°2263 under article 9 "The Declaration on the Elimination of Discrimination against Women" resolving that :

"All appropriate measures shall be taken to ensure to girls and women, married or unmarried, equal rights with men in education at all levels and in particular :

(a) Equal conditions of access to and study in educational institutions of all types, including universities and vocational, technical and professional schools;

(b) The *same* choice of curricula, the *same* examinations, teaching staff with qualifications of the *same* standard, and school premises and equipment of the *same quality whether the institutions are coeducational or not*;

(c) Equal opportunities to benefit from scholarships and other study grants;

(d) Equal opportunities for access to programmes of continuing education including adult literacy programmes;

(e) Access to educational information to help in ensuring the health and well-being of families".

1.37 It may be argued that girls and young women are in the legal and administrative sense theoretically free to take advantage of open access. But the conscious establishment, organisation and public advertisement of separate secondary vocational training for girls (for example, istituti femminili in *Italy*; the declining Husholdning-skoler in *Denmark*; huishoud en nijversheids schools in the *Netherlands*; separate schools for rural domestic economy for girls while boys study agricultural science for employment in *Luxembourg* and *Ireland*), must be regarded as totally incompatible with the principle of open access and of the same opportunities in the later non-school sector for which they are planned as a conscious base. There is clearly a causal relationship here. Free choice later depends on basic education and training and therefore equal qualifications in earlier stages of education.

1.38 This raises a further question of principle. How far are countries honouring their own education legislation in organising separate and different education for girls solely because they are girls (and not because they are for example handicapped pupils or are less able or have been assessed as educationally homogenous). Most countries

have national Education Acts which entitle citizens to an education suited to their individual and personal needs. In *France* for example the law of 11 July 1975 establishes a clear fundamental objective of ensuring for all, equal opportunity in education, equal access and an equal chance to develop individual aptitudes and personality. The *Danish* Folkeskole Act of 7? June 1975 aims to offer an education "which will contribute to each individual pupil's versatile development". In *England and Wales* the principle Education Act of 1944 lays a duty on local education authorities to educate all children according to "age, ability and aptitude" (Section 8) - not according to sex. The Education (Scotland) Act, 1962 similarly refers to secondary education according to "age, ability and aptitude" [Section 3 (2)]. No doubt other countries have similar constitutional or legislative declarations.

Antithesis - Inequality and Discrimination

1.39 A further consequential issue of principle is the distinction between *inequality* and *discrimination*. The former is a state and arises from essentially passive factors like social class, inherited intelligence, area of residence (underdeveloped or deprived region, rural or inner city environment). The latter arises from conscious, active and imposed limitations or artificial (ie. non-educational) differences and can be traced back to accountable groups or individuals (Ministries, principals and head teachers, committees, trainers).

1.40 So far the United Kingdom is the only country actually to include education and training in its anti-discrimination legislation, the Sex Discrimination Act 1975 (and the parallel Order for Northern Ireland), recognising that certain patterns of educational planning and organisation constitute a more conscious discriminatory element than the mere passive acceptance of inherited social inequalities. The *Sex Discrimination Act 1975* makes it unlawful for example to refuse any female pupil or student (or any male) admission to a coeducational educational establishment solely on grounds of sex or to discriminate in offering courses, curriculum or facilities within the schools, colleges or universities. Some consider that a weakness of the Act is the exemption of single sex establishments from the principle sections 22-25 and their effective controls. It is equally unlawful for any local education authority (or local authority in Scotland) to carry out any of its functions under the Education Acts (which delegate duties and powers from central to local government) by any act of sex discrimination. In the context of the secondary education of girls, the new legislation is beginning to cause discussion of some radical changes in traditional patterns of school organisation.

1.41 *Italy's* Anti-Discrimination Act passed in December 1977 excludes education and appears to exclude such training as takes place in the school sector, although Article 1 (2) states that :

"In addition, it shall be unlawful to discriminate against persons seeking vocational guidance, vocational training, advanced training or more up-to-date qualifications."

It is not yet possible to estimate the implications of this for training within the educational as distinct from pre-employment sector. *Ireland* has an Employment Equality Agency but has no parallel body to monitor the education and training which ensures equal qualifications for employment. The *Danish* Council on Equality set up in November 1975 has the power to "investigate conditions that jeopardise equality, and propose measures to alter such conditions". Denmark has now set up a separate Committee on Sex Roles in Education to investigate the adverse influences of sex role stereotyping in educational provision. *France's* Délégation à la Condition Féminine clearly has a major interest in the role of education and training in achieving equality for women.

The Aggregation of Inequality

1.42 The point has been lightly made that the many external factors which influence the different educational capacities and achievements of children create more differences within than between sexes. Added to this is the cumulative effect of several indices of inequality to create risk groups of especial concern in which girls appear to be especially vulnerable.

1.43 There is sometimes a tendency to talk about women and girls in the context of sex differences in education as if they were more homogenous because of their sex than we would conceive to be possible in discussing social or psychological problems. But there is considerable research evidence that in terms of "life chances", social class and intelligence are more decisive single factors of advantage or disadvantage than sex alone. Given however that sex inequality has now at last been seriously recognised also as an educational problem, it becomes evident that we must recognise a kind of "compound interest of inequality". That is, the aggregation of several indices of deprivation creates a special scale of unequal life chances, of deprivation, of unequal opportunity and of under-achievement, which exceeds both in complexity and in seriousness the simple sum of the individual factors.

1.44 In times of growing social need and of diminishing educational resources (of which expertise and time are as relevant as financial investment) it becomes important to attempt to identify and concentrate attention on those groups whose aggregation of "risk factors" places them most in need of urgent remedial help or of special action programmes. There are five major indices of potential inequality relevant to this report which, where two or more are present, create a special scale of need and where three or more are present produce a cumulative problem which can only be effectively attacked by an integrated approach of special interventionist action programmes which cross both social and educational barriers. These are :

(i) sex

(ii) lower ranges of intelligence

(iii) lower social class and/or poverty

(iv) residence in certain under-developed or under-achieving regions;

(v) residence in rural areas

A sixth - race - may be equally serious and can add a disproportionate element of cumulative disadvantage in the case of ethnic groups who find themselves in a minority in a particular country, but the problems of immigrant or minority groups deserve special attention geared to their idiosyncratic needs. The five basic indices above however create problems which are reasonably common to most if not all European countries. Evidence from the larger countries with strong geographical differences and complex historical and social backgrounds, confirms marked differences in the achievements of young people from different regions and in the more limited access to a take-up of educational opportunity from rural areas. Rural under-achievement is for example a marked feature of parts of Wales and the rural North of England; of the South of Italy (notably Campania, Calabria, Basilicata and Abruzzi); of some of the German Länder; and of some regions of France (Brittany, the Massif Central).

1.45 The overriding importance of the *class* factor and the "aggregation" problem, have also been confirmed by a number of research studies as well as by informed expert opinion. In the Etude Magrip (13), a recent longitudinal study of 2312 Luxembourgeois pupils beginning with the sixth year of primary education, the profile of the 17.0 % of the sample who experienced the minimum post-primary education revealed a combination of characteristics - they were predominantly girls, working class, children of unskilled workers and of below average intelligence. Conversely the favoured 30 % of the sample whose profile showed the longest schooling and the best qualitative

results were mainly boys (62.8 % boys, 37.2 % girls) of good social class, of non-manual parents and good intelligence. An earlier longitudinal study of 11,000 children over seven years conducted by the National Children's Bureau in the United Kingdom also established that social class was a more severe handicap than sex difference, but that aggregated, the two factors were disproportionately disadvantageous to girls. In this sample girls whose parents were manual or unskilled workers were doubly disadvantaged in educational achievement (especially in numeracy) and in social development compared with both "manual" boys and "non-manual" girls and boys (14). An earlier analysis of regional inequality also established the relative deprivation of the North and North East regions of England as compared with the South East (15), a finding which was confirmed later by the study. In the *Netherlands*, class differences when combined with sex differences also illustrate a double disadvantage. An analysis of the expected and the actual vertical flow of pupils to interim secondary and to higher education (16) revealed that girls whose fathers were skilled workers rather than non-manual workers, unskilled agricultural workers or market gardeners, are more seriously under-represented in upper secondary and higher education than boys of the same social class; and hardly represented at all compared with daughters of non-manual parents overall. Although participation in full-time education in the Netherlands has risen faster for girls than for boys, participation by 17 year old girls is still only two thirds that of boys; and of these girls, the overall majority are middle class. The double deprivation of the combination of female sex and lower social class was also decisively confirmed by an OECD survey published in 1967 (17).

THEORY TO PRACTICE

1.46 While this enquiry and its findings are centred on the disadvantages of girls, it should be remembered that the removal of sex-role stereotyping in education and the introduction of a freer, more individual education replacing normative classification by groups on non-educational criteria (in this case, sex) will improve opportunities and choice for boys as well as for girls. This will emerge more clearly in Part II but the point should not be lost.

1.47 The first section has concentrated on identifying some of the more influential principles and issues which must form an essential part of an exercise in diagnosis and remedy. Others will emerge as the detailed analysis is developed in the central section. It is perhaps necessary to stress at this stage that the enquiry on which the report is based, and the report itself, is limited to issues and problems either for which government (both central and local) and the education service are responsible, or which they can directly control or influence. The education sector cannot look for an alibi to any

inadequacies in promoting equality on the part of other aspects of society (industry, parents, general social attitudes) until it has first put its own house in order. Not all remedies involve resources. Some involve new ideas, new attitudes and new administrative structures and designs.

1.48 Part II therefore, looks at those barriers hindering the achievement of equal opportunity in education for both sexes, which are directly related to or are part of the education system, because it is these which can be altered, removed or influenced by, for example, Ministries, governing bodies, head teachers and principals, and by other groups who form part of the sytem of the government and administration of educational services. Barriers which may be placed before girls as they progress through the secondary education system, or hurdles that they may face because of environmental or developmental factors, may be divided into four main groups :

(i) structural and organisational

(ii) curricular and extra-curricular

(iii) psychological and developmental

(iv) social and environmental.

These are now discussed against the findings of the enquiry and analysis in the nine member states.

CHAPTER II

ANALYSIS AND EVIDENCE

Where girls are in the system

2.1 The absence of specific research studies to examine sex differences in education with the same depth and seriousness which social class inequalities have attracted in the past thirty years, means that it cannot be assumed that decision-makers in education are starting from the same basis of relevant knowledge. Statements may often be made on subjective or empirical experience because research and data on a sufficient scale are lacking. Not all educational statistics are yet divided by sex and monitoring is therefore difficult. In looking at the possible barriers to equality in the first two categories (structural and organisational, and curricular) it became essential first to collect a factual picture of where girls actually are (or are not) in the educational system. The participation rate of girls in the different levels and types of schools and courses is a first point of reference, and the following section therefore outlines the situation in the nine countries so far as data is available.

2.2 The basic participation rate of both sexes at second and third levels is shown in table 2 which derives from Eurostat statistics which have been co-ordinated for comparability purposes. This shows that sex differences in participation vary more markedly at second cycle than at first, predictably since the first grade is predominantly within the age range of the compulsory years of schooling, whereas most, though not all, second cycle courses are optional in that they cover the age range from 14 or 15 to about 19 years. The overall position however hides many differences within the school system. More important are the answers to such questions as the relative participation rates of girls and of boys in extended education, in different kinds of schools and courses, and in different levels of courses leading to examinable qualifications. Two structural issues are common to most countries, the separation of boys and girls into single sex as distinct from coeducational schools, and the sub-division of the secondary system into different schools whose educational programmes are planned either for different ability ranges or for different "vocational" objectives. The actual complexity of some educational systems and the limitation of access to some schools or courses to boys only or girls only emerges as one structural barrier to achieving equal (i.e. the same) education.

Table 2

DISTRIBUTION OF MALES AND FEMALES IN THE MAIN EDUCATIONAL SYSTEM, EXPRESSED AS PERCENTAGES OF ALL PUPILS AND STUDENTS AT EACH LEVAL

Country	Second Level				Third Level	
	First Cycle		Second Cycle			
	M	F	M	F	M	F
F.R. Germany	50.7	49.3	49.3	50.7	59.9	40.1
France	49.5	50.5	47.9	52.1	53.6	46.4
Italy	52.4	47.6	55.6	44.4	60.6	39.4
Netherlands	52.3	47.7	56.2	43.8	69.5	30.5
Belgium	52.7	47.3	48.5	51.5	58.5	41.5
Luxembourg	50.1	49.8	53.7	46.3	66.7	33.3
United Kingdom	51.1	48.9	50.9	49.1	58.5	41.5
Ireland	51.3	48.7	43.1	56.9	61.3	38.7
Denmark	49.6	50.4	46.8	53.2	58.5	41.5

Source : Eurostat 1976 Statistics of Education, Table 3

Note : Throughout the Community as a whole, males slightly outnumber females in the under 15 age group, while females slightly outnumber males in the overall age group 15-64. The difference is mainly less than one percent and cannot account wholly therefore for the scale of sex differences shown here at second cycle and third level.

ACADEMIC (PRE-UNIVERSITY) EDUCATION, GENERAL EDUCATION AND LENGTH OF SCHOOLING

2.3 Access to extended academic second level courses is essential if equal access to third level university courses is to be achieved. In most but not all countries, girls' participation rate in pre-university *academic* courses either equals or exceeds that of boys. In *Denmark* more girls than boys take part in higher secondary education overall (25,553 girls to 22,613 boys in 1976), but the figures specifically for gymnasier are more even - 20,997 girls and 20,240 boys in 1976.(18) In *Italy* there are however sharp regional differences. Nationally girls dominate in academic schools - 55 % of all pupils at the licei-ginnasi were girls in 1976. But regional percentages varied from the even higher figures of 62.9 % in Abruzzi, 61.1 % in Molisse and 60 % in Toscana, to as low as 46.2 % in Trentino-Alto Aldige. (19) Of greater concern in terms of equality of access to later scientific and technical education and training is the lower proportion of girls in the licei-scientifici. In 1976, in Piedmont and Emilia-Romagna only 45.2 % of pupils in the scientific licei were girls, while the proportion was as low as 39.8 % in Campania and 41.4 % in Veneto.(20) It is arguable that the deliberate structural separation of scientific academic education from the licei-ginnasi acts as an unnecessary barrier to an unconditioned free choice of curricular choice for girls (as for boys).

2.4 In *Ireland*, pre-university education is mainly (though not exclusively) provided in the secondary schools where girls outnumbered boys by 71,130 to 55,143 in 1977 in the lower cycle and 35,260 (girls) to 27,643 (boys) in the upper cycle. (21) Girls are equally well represented in the lycées in *France*, forming 55.9 % of all pupils on long second cycle courses in 1976 and a majority of candidates for the traditional baccalauréat. (22) In *Luxembourg*, participation in the lycées is almost equal - 4001 girls and 4073 boys in 1975, (23) while in the *United Kingdom* girls have traditionally been over-represented in grammar schools and in the academic streams of comprehensive schools up to the age of 16 or so.

2.5 Three countries however continue to show a sex gap in recruitment to second level academic or pre-university courses which is still marked. In the Flemish speaking sector of Belgium only 45.7 % of pupils on lower cycles of these courses were girls in 1977 and only 43.5 % on upper cycle academic courses. (24) These figures are almost matched by the *Netherlands* where 45.2 % of all pupils attending courses in VWO (pre-university long cycle courses) were girls.(25) In *Germany*, the gap has narrowed over the years 1960 to 1975. Fifteen years ago girls represented only 41 % of first cycle and 36.5 % of second cycle

courses in gymnasien. By 1975 their proportion of enrolment had risen to 48 % and 45 % respectively of the total rolls of these courses. (26) In Germany, however, as in Italy there are also regional variations. Figures for the girls' proportion of the total roll of the pre-university Gymnasien vary from 47 % in Saarland to 57 % in Schleswig-Holstein and 59 % in Rheinland-Pfalz. (27) The aggregation of both the regional and rural/urban differentials moreover confirms their importance as serious double variables. For example, the rate of pupils staying on at Gymnasien after 15+ varies from as low as 14.9 % in Bayern and 16.0 % in Schleswig-Holstein to as high as 25 % in Bremen and 26 % in West Berlin. (28)

2.6 It is not possible to look at secondary general education out of the context of the vocational and technical courses which are the main alternative to this for the less gifted. Two tendencies are however fairly widespread in most countries - firstly for the less able girls to tend to opt for secondary general courses rather than for vocational education and secondly for girls to choose shorter courses with lower levels of examinable qualifications at their completion. The Netherlands provides perhaps the sharpest example - substantially more girls on short cycle MAVO (general) courses and fewer on long cycle HAVO courses. (29) Moreover, the dropout rates for girls are universally higher and this is an area of considerable concern.

2.7 It is difficult to draw firm conclusions about the length of schooling which boys and girls receive respectively because of the complexity and unevenness of the post school educational system which they may or may not enter. Figures of the rate at which girls remain at school after the compulsory school age are not wholly meaningful unless they are also related to parallel figures showing where girls are (or are not) in alternative educational institutions offering education and training for the age range from 15 to about 22. Such evidence as is available suggests however two main characteristics in the pattern of girls' education and of that of boys in this aspect, firstly that girls' motivation to remain at school to complete long second cycle courses is weaker and secondly that there is a wider gap between the aspirations of academically gifted girls for an extended education and that of less able girls, than between gifted boys and less able boys (for reasons which are relevant to the later section on vocational education). It must be said that the evidence from the nine countries is the most varied on this aspect and it must be a question whether we need further research into the causes of premature leaving - motivation, structural, social or otherwise. The position varies significantly according to types of courses. In *Denmark*, for example, there are proportionately more girls than boys at school in the 10-19 age group for all courses (folkskolen, higher secondary, etc.) except for vocational and technical education where they are in a minority. In the *Netherlands* also, there are variations between sectors of education for while 77 % of girls but 74 % of boys

complete the first cycle of general education (MAVO), and 65 % of girls and 60 % of boys the second cycle (HAVO), in the case of pre-university courses (VWO) the converse is true (60 % of the girls, 63 % of the boys). In the second cycle vocational courses (MBO), most girls take two and three year courses but most boys four-year business and technical courses. (30)

2.8 There is little actual research evidence available on the influence of social class on under-expectation and premature leaving but it is almost certainly a relevant factor. The figures for England and Wales (31) at least partly confirm this :

England and Wales
Percentage staying on beyond school leaving age

	Age	1956		1975	
		B	G	B	G
Maintained (state) schools	16+	16.7	15.6	23.2	24.3
	18+	4.0	2.3	6.4	5.2
Non-maintained (private) schools	16+	66.5	54.7	75.7	61.8
	18+	16.1	6.5	18.9	13.8

The aggregation of social and educational disadvantage is illustrated here. Although the sex gap is actually greater in the private sector, nevertheless 14 % of girls in non-maintained schools still completed the full second cycle of education as against only 5 % from the state sector. Further regional analyses show also that the North East, East Midlands and Wales are consistently below the national average in pupils' rates of staying on. While the sex difference in rates of staying on has narrowed over the years and while there is little difference at 16+, a further variant is that fewer girls than boys still complete the full sixth form course to take the Advanced level of the General Certificate of Education (necessary for university entrance and advanced further education) at 18+. Interestingly, the sex gap is again much wider in the private sector (dominated by middle class children) than in the state sector.

2.9 *France* shows a different pattern for reasons that are difficult to analyse. A special report (32) gives the following higher representation of girls throughout.

Percentage in full-time education by age and sex, 1974-75

Age	Boys	Girls
	%	
15+	90.0	94.2
16+	63.9	73.1
17+	44.4	53.4
18+	24.8	26.8

2.10 It is not however just a question of actual length of schooling. When the overall rates of participation of girls and boys in extended full-time education are further analysed by *level* of second cycle course as well as by type and length of course, it is clear that in a number of countries, both the gifted and the average girls suffer more than their brothers, from a "poverty of aspiration". They aim at shorter courses of less depth, leading to lower qualifications, which in turn qualify them for employment carrying lower salaries and wages and poorer career prospects. It becomes important therefore for careers guidance to be introduced *before* the stage at which they choose their second cycle course, whether that is 13, 14, 15 or 16 years, to increase their levels of aspiration and motivation.

2.11 There is some evidence from both informed expert opinion and social surveys, that the "premature leaving" from advanced academic or long cycle courses is more marked for girls than for boys partly because either they become distracted by early engagement or marriage (but their young fiancés and husbands do not); or they leave school to help with family responsibilities where younger children, single parents or poverty create special needs. It is most often the girls who "voluntarily" shoulder the extra burden - whether through innate extended maternality or because of social conditioning and family pressures. It is important that careers guidance programmes should also correct this tendency and not only persuade girls that extended education and qualifications are an investment for a long adult life, not all of which will be home-based - but also persuade boys that they are equally responsible for family problems and for ensuring that their sisters have equal access to extended education.

2.12 The tendency for girls to be equally or over-represented in general or academically-oriented secondary education in the first cycle and for the *first* part of the second cycle may be explained by many influences. Proportionately more boys leave school earlier to enter employment with on-the-job training or day release for technical or further education. The recruitment qualifications for the kinds of employment to which girls of average ability tend to be channelled (clerical and office work; the distributive trades) are mainly a good basic education and oral and written competence in the mother-tongue rather than technical skills. Girls' verbal superiority over boys, already marked in the primary years, also channels them to arts and general studies in which they are more likely immediately to succeed.

2.13 In summary, the preliminary data referred to so far although only basic are perhaps enough to illustrate two results, one that there are marked differences in evidence between countries which need to be explained in causal terms; but secondly that notwithstanding, it does not appear to be in academic or general education that initial problems of access or actual participation by girls appear to be the most significant. We have noted however the problem of dropout rates to which a later section returns - and the central and seminal question of curricular differences between the sexes is further dealt with in paragraphs 2.36 to 2.56 below. Structurally and organisationally, one major barrier to girls' achievement of an equal (because identical) *choice* of educational opportunities is the separate organisation of vocational and technical education in a number of countries. The separation is two-fold - the disassociation of vocational schools from those offering general or academic education, and the policy which defines and organises separate vocational schools, courses and curricula for girls from those offered to and used by boys.

VOCATIONAL AND TECHNICAL EDUCATION

2.14 Vocational and technical education followed by girls in most if not all European countries is generally distinguished by several disadvantageous characteristics. It is almost exclusively geared to certain limited employment sectors which are regarded as "feminine"; it leads to employment fields which are almost universally less well paid than male-dominated employment and which have poor career and promotion prospects; it leads to lower level qualifications than those generally attained by boys and it tends to have a more limited transfer value. Above all, much of it is based on the inward looking "extended maternality" concept of what is suitable for girls and women, and on a future adult role for the trainee which is supportive rather than dominant; assistants rather than leaders and managers.

2.15 The report of this Commission's 1975 international seminar on vocational guidance and training for women workers (33) refers to two factors, that fewer girls than boys resort to vocational guidance services and that girls' choice of occupation is limited to feminized sectors of the economy, as "leading to the fact that girls receive a vocational training which varies from that of boys". This report stands that argument on its head and suggests the reverse - that it is *because* girls are deliberately given a different vocational training from boys, stereotyped as feminine, that they will inevitably and inexorably gravitate unchanged to what they have been taught is "their" natural environment. If girls are conditioned and taught intensively from the age of as early as eleven that they are different and should aim at different adult employment from their male peers, they are unlikely radically to change their views and horizons after brief exposure to careers guidance almost universally timed to occur after, not before, they have made crucial decisions about choices of second level schools, courses or subjects.

2.16 A number of countries both separate technical and vocational education from other second level courses and schools, and separate boys from girls as early as the first cycle. Such systems demand a choice on the part of a pupil which will set her or him on a tramline, from which sideways transfer is theoretically possible but practically difficult and rare, before she or he has even completed puberty, or has developed mentally and emotionally from childhood into adolescence. Premature specialisation is, in the view of many in the educational field, a serious educational barrier to equal opportunity and free and unconditioned choice of study areas or careers.

2.17 The scale of early specialisation can be as underestimated as its effect on adolescent motivation. There are two findings which are almost universal. Firstly, the overall participation by girls in vocational and technical second level courses is mainly much lower than that of boys. Secondly, the courses followed by girls and by boys are almost wholly sex-typed. In the *Netherlands* separation into technical and vocational courses starts at eleven years. There are 1262 lower, 590 middle and 306 higher technical and vocational schools, but of these 857 are "domestic science and industrial" schools for girls. In fact they do not provide training for industry (in the manufacturing sense) but for childcare, dressmaking, para-medical services. By contrast, 16,881 boys are studying construction, over 8,000 food, drink and catering (but only 307 girls) at lower level; 35,800 boys a general technical course (but only 2,724 girls); and 19,982 boys, horticulture and agriculture (3,637 girls). The middle and higher level figures are even more sharply differentiated and show a sex-typing of subject area which can do nothing towards encouraging girls to opt for non-traditional employment areas later, on qualifying. (34)

2.18 Girls also follow shorter courses than boys - another widespread tendency. In the upper cycle of vocational education most girls follow two or three year courses; most boys four years business and technical training. The figures for 1975 show that diplomas awarded in MBO schools were almost wholly sex-typed.

	Percentage	
	Boys	Girls
	%	
Technical	97	3
Agriculture	93	7
Welfare	2	98
Business	85	15

It is interesting to note that the Netherlands like Italy has an unusually low proportion of economically active women in employment and it can be hypothesised that there is a causal relationship (both ways) between the strong and early stereotyping of the technical and vocational education of girls (and its domestic orientation) and the social expectation that women will not expect to work permanently after marriage. The defined objectives of society and those of the education service cannot be separated from matters of structure and organisation.

2.19 Premature specialisation in the first cycle is also a feature of education in Luxembourg and in Ireland. In *Luxembourg*, pupils have to make choices between different forms of technical courses after the "common seventh year", that is at about 14. Girls are very little represented in technical courses, dominate in paramedical training, and are represented in apprenticeships only in hair-dressing, clothing and food. The agricultural schools recruit however as early as 12 years, and here again educational planners appear to reflect socially restrictive attitudes. Despite the fact that women farmers and stockbreeders are to be found all over the world, and that women have maintained food production throughout two world wars, boys in Luxembourg have a choice of agricultural or agronomic education, leading to a Brevet of agriculture studies and ultimately to a Technician's Diploma. Girls, however, assigned to a separate school, "have a choice between a domestic or a social and a familial Section leading to a Brevet of agricultural *Domestic Science*" (presumably to qualify as farmers' wives and not as farmers ?). It is difficult not to interpret this as sex discrimination since the girls' courses cannot lead to later qualified work, employment and wages, equal to those open to the boys.

2.20 *Ireland* also separates vocational education by sex as early as the first secondary cycle, specifically limiting junior technical (craft-based) courses to boys, junior rural courses (including agricultural science) to boys, and offering as an alternative for girls, domestic economy courses which are predominantly family-based and do not include even the work-related welfare elements of Italian and Dutch "feminine"training. Commercial courses are however open to both sexes. Predictably, already in the lower cycle in Ireland (12-15 years) boys outnumbered girls by two to one in 1976-77 (35,000 boys to 15,000 girls). The divergence is more acute in the second cycle. Girls represent only 35.5 % of enrolments on Vocational General courses (but 99 % of secretarial courses) thus explaining in turn why young women account for only a quarter of all students in technical and technological education at third level. (35)

2.21 While *Belgium* has an equally strong tradition of separate vocational education, the traditional separation of academic and general education from technical and vocational education is currently under review as a "Renewed secondary education" is expected gradually to replace this. About 60 % of state schools and 25 % of catholic schools have now reorganised to provide a second level structure from 12-18 which is pluridisciplinary and has a two year "observation" grade, a two year "orientation" grade and a two year "determination" grade. The former distinction between technical and "enseignement professionnel"will become more blurred. Recent figures from the French-speaking sector of *Belgium* confirm however the general pattern of under-achievement by girls of access to technical streams, and of the sharpening of the differential at the point of moving to the second cycle. In the junior vocational cycle, girls represent only 63 % of the equivalent male intake (i.e. boys outnumber girls by three to two). The only areas where girls are represented at a significant level even in the first cycle is (predictably) in training in textile work and in paramedical areas. More seriously, the following areas of technical secondary education are shown as limited to boys only; radio, photography, stone-masonry and architecture. Of all forms of vocational education, girls are seriously under-represented in 50 sectors, have achieved relative equality in 12 and are over-represented in 14, the latter being in traditional feminine areas. (36) The Flemish-speaking sector shows a similar picture. Of the 29,513 girls on lower vocational courses and 35,165 on lower technical courses, almost all are divided between training for four outlets, for the clothing industry, for office work, for domestic help and welfare work or for "agricultural domestic science". (A healthy minority of girls was in 1977 studying technical science however.) (37) By contrast, the 75,000 or so boys on lower technical and vocational courses are spread over about thirty skilled (and therefore highly paid) trades and industries - and are influenced towards these employments almost before adolescence. (38)

2.22 There is almost certainly a relationship between a longstanding tradition of non-working women and the under-representation of girls in vocational (other than teaching) courses in *Italy*. The proportion of girls in the istituti professionali is as high as 65.6 % of the total enrolment in Trentino-Alto Adige and 51.1 % in Emilia-Romagna, in the more industrial North; but is as low as 31 % in Abruzzi, Calabria and Basilicata in the South where there is long-established prejudice against working women (even single women). (39) The aggregation of inequality is also relevant here - academically able girls even in the South achieve a good level of access to extended education, but the less able for whom vocational education is the alternative are triply handicapped by lower ability and by region as well as by sex. There are encouraging signs, however, of some improvement. Although the proportion of girls attending Istituti tecnici industriali and Istituti tecnici geometri is still low, the *growth rate* of enrolment over the five years 1971-1976 was 45.9 % and 63.1 % for girls, as against 13.2 % and 4.4 % for boys, respectively. (40) Only 26.9 % of pupils at Istituti tecnici are girls even so. Italy is also one of the countries which retains separate technical training for girls, *Istituti femminili* whose programme is primarily based on domestic economy and training for what are conceived as "feminine" occupations (textiles, child care). This appears to run contrary to the concept of opening all fields of work to both sexes, and reinforces the now questionable concept that domesticity after marriage is a "vocation" for young women and an incidental side issue for young men.

2.23 The programme of reform now being considered in Italy was expected to review the "rigid hierarchical categories still present within upper school systems and which create profound inequality of intellectual and cultural preparation", and "to move away from the idea of the vocational school", in order to postpone specialisation until later. (41) It is not suggested that, apart from the practice of channelling girls to the Istituti femminili where possible, girls are actually denied access as such to technical, industrial and other vocational training; but that the separation of traditionally male from "feminine" education and training discourages either sex from a non-traditionl choice and mostly acts as a disincentive to girls. The early implementation of such a reform would contribute to the removal of sex-typing in vocational education in Italy.

2.24 The separation of vocational education from general and academic education within the school systems is also a major feature of German education, although the stage at which young people make decisive choices is later than in the Netherlands and is firmly based in the second cycle. Girls are proportionately more seriously under-represented also in the later stages of vocational education. In *Germany* part-time education is compulsory from 15 to 18 years for those who leave school before 18. The Berufsschulen (part-time

vocational schools) provide practical training as well as general education. The five categories of training however, include "schools of domestic science, providing courses of domestic economy, cooking, knitting and sewing, hygiene, nursing and puericulture" - hardly training for a vocation in the field of employment. Figures are not available to sub-divide the participation of girls in each type of vocational school but while they represent 61 % of all pupils at Berufsfachschulen (full-time vocational schools) they account for only 23 % of students at Berufsaufbauschulen (the "second route" second cycle courses allowing passage from vocational to high education). (42) On the other hand, by marked contrast with the U.K. (where only 10 % of girls, but 40 % of boys receive day release from employment for vocational education from 15-18), in *Germany* girls account for 40 % of all day release students at part-time vocational schools. (43) Where figures are available, it is nonetheless clear that within this 40 % there is still a clear sex typing of training which reflects the feminisation and masculinisation of adult work. In the Berufsschulen in 1974 the figures for young men and women in the second cycle (of part-time training) were for example as follows for three important trade areas : (44)

	M	F
Electrical training	155,493	611
Textiles and clothing	4,963	22,487
Metal trades	332,792	7,939

Germany is also beginning to take measures to develop interventionist programmes to encourage women to train for non-traditional work areas, which are however based more in the employment sector than in the educational system to which reference will be made later.

2.25 Three countries have taken positive steps to reorganise their basic secondary education so as to defer specialisation and to increase pupil and student choice. Denmark, France and the United Kingdom all share to some extent a common and positive motivation to diminish segregation of types of education, from which non-academic girls aiming at vocational education may especially benefit. *Denmark*, in process of reforming its secondary system, offers a more encouraging picture of girls' ability to catch up and to opt for non-traditional areas when positive programmes of encouragement to do so are set up. Girls still outnumber boys in the gymnasier and in the higher preparatory courses, but although in 1975-76 there were still 1056 girls in secondary home economics schools, these are now being phased out and the technical schools as a whole enrolled 11,000 girls to 8,000 boys in 1975-76. (45) The courses followed by no means always

broke traditional patterns - girls still tended to opt for commerce, welfare and retail training, but did not dominate these fields so exclusively as elsewhere. More importantly, girls have begun to increase their enrolment in apprenticeships and in the new vocational schemes introduced in 1972, based on fields of employment rather than specific trades. As part of the new schemes, pupils receive basic vocational training in the schools from 16 to 17 years before moving on to the next stage by choosing a specialism within the field or sector of work, and although girls are not yet well represented as potential machinists, car mechanics or electricians, they do account for 25 % of trainees for typesetting and 14 % of the trainee butchers. Over 100 girls are now training for construction and the metal trades, and nearly 150 as technical assistants or draughtswomen.

In 1975-76 in Denmark, although of those aged 15-19 years following apprenticeship training only 20 % were girls (7,239 girls and 28,731 boys), of those following the new integrated basic vocational education over a third were girls (36.6 %), while more girls than boys enrolled for school-based technician training. 85 girls were training in 1977 to be skippers or for nautical education. The problem will be to translate an untypical minority into a norm. The move to base the introduction to the new generic training in the coeducational upper secondary schools does however at least attempt to remove organisational restrictions.

2.26 It would be wrong to suggest that problems of limitation or of under-achievement do not occur in those countries (France and the United Kingdom) who do not organise vocational education as part of the earlier secondary cycles or who do not separate vocational and technical studies into separate schools. In *France* following the law of 11 July 1975, pupils are now expected to choose with guidance one of four routes at the beginning of the second cycle (i.e. at 15 years), to an academic baccalauréat, to a technician's baccalauréat, to a technician's certificate or to a shorter vocational and general course not exceeding two years (in a collège d'enseignement technique). Longer second cycle courses take place in lycées (including technical lycées). In the year *before* they are 15 therefore pupils are choosing very different educational courses which will decisively influence their choice of employment or their route into university or higher technical education. They are still making the choice before, not after, careers guidance has had a full impact on their understanding unless a guidance programme begins at 13 years. It is however interesting to note that France is one of the rare countries in which girls are relatively highly represented in technical and vocational education. For example, more girls than boys take the baccalauréat de technicien. (46) In 1975 the pattern was as follows :

	Baccalauréat de technicien	
	Boys	Girls
Candidates	39,292	47,031
Successful	21,257	29,599
% success out of total candidates	54.1 %	61.5 %

Nor can it be said that this was an alternative for the gifted girls to the traditional baccalauréat - for more girls than boys were both candidates for and successful in the general baccalauréat with a success rate of 69.7 % against the boys' 64.0 %. This picture confirms however a tendency in some other countries for the breakthrough against stereotyping of choice to be more common with the more gifted. For at the level of the brevet technicien, only 29 % of candidates in 1975 were girls (although their success rate was 73 % as against boys' 59 %). By contrast, 54 % of candidates for the brevet d'enseignement professionnel were girls (again with a higher success rate) - this course covering studies more traditionally attractive to girls. (47)

2.27 The position in the United Kingdom is in turn extremely variable. Vocational courses are postponed in England, Wales and Scotland until the post-school sector, i.e. in Colleges of Further Education or polytechnics. There are three aspects of the pattern of girls' participation in further education (that is, non-university tertiary education below degree level). Firstly, more young women than men enrol for further education courses. Secondly, however, there are ten times more men than women following *advanced* vocational courses, but the lower level and shorter courses are dominated by women who are in a ratio of three to one. Thirdly, the same strong general sex-typing of areas of study is characteristic of all four countries in the United Kingdom. There have however been significant increases in non-traditional options by girls over the last five years or so. Although almost all secretarial students are female, women are steadily increasing as a proportion of business studies students in England and Wales. While fewer than 2 % of students in engineering and technology are women (in all four countries), female students of science and technical subjects have increased to about one fifth of all students - a 38 % growth rate over the last decade. In Northern Ireland girls are relatively less well represented in non-tratidional areas, but the percentage increase in their participation rate of scientific and technical subjects at the advanced level of the General Certificate of Education was, for example, 159 % over the last decade as against 53 % increase for England and Wales.

2.28 By definition, of course, vocational and technical schools and courses have a defined curriculum which, according to the bias of the course, must necessarily reject some subject areas in order to be able to include others. An analysis of the specified programmes of a number of first and second cycle vocational and technical courses, where these are available, has revealed firstly that both girls and boys who follow specialist courses before the age of 16, will tend to have studied a less balanced range of subject areas than those who follow a general course until 15 or 16 and who then specialise. Girls will accordingly find it more difficult to change their courses of study later in the second and third cycles or to opt for different fields of employment from their earlier ideas, which may require different foundation subjects. Secondly, the vocational programmes designed for and followed by girls, are found to be almost universally weaker in mathematics and science than for boys, and in no case include the technical crafts (woodwork, metalwork or technical drawing) whose educational transfer value is superior to that of homecrafts (discussed briefly in the next section). Girls are thus less well equipped for free choice of access to the world of work. There are far fewer fields of employment which now do not require a reasonable base of mathematics and sciences (offered to fewer girls) than hitherto; and these are mostly the lower paid jobs.

2.29 This extremely traditional sex-typing of domestically slanted "vocational" programmes designed by a number of countries for girls (but which only a token handful of boys follow) appears to be partly based on the mythology that girls (a) will all marry, which they do not; (b) will all give up work on marriage, which they do not; and (c) will find skilled work, promotion and a career permanently incompatible with family responsibilities, which begs a number of social questions. Among these is the duty of fathers - husbands, equally to share in the dual responsibilities of work and home. It is worth a reminder of the scale of women's economic activity, perhaps.

2.30 With the exceptions of Italy and Ireland, the proportion of women in paid employment has steadily increased in Europe over the last fifteen years and will increase further. Well over a third of girls in today's classrooms will work for most of their lives; and possibly over half in due course. A *German* survey in the Saar district in 1976 showed that 70 % of the sample survey who were under 30 years of age expected to work outside the home as distinct from only 22 % of those over 40. (48). In Germany as a whole 70 % of the 9.6 million economically active women were married, divorced or widowed. 41 % of mothers with children under 15 were working, and more than 33 % of active women work without a break. Importantly, a German survey of non-active women from 18-54 years by Helga Pross in 1973, revealed that 40 % would have preferred to work rather than be a "mere housewife". (49) In the United Kingdom, about one in five of all women

is now the breadwinner, while Audrey Hunt's survey of fifth form (15 year old) girls confirmed a similar growing expectation by girls that they will now continue to work after marriage. (50) Women now represent over 40 % of the civilian labour force in Denmark, 38.8 % in the United Kingdom, 37 % in France and F.R. Germany. It follows that the nature and character of vocational and technical education which girls follow must in future reflect the realism of this situation.

2.31 Reference was made earlier (§ 1.5) to the Commission Directive that vocational training shall be accessible on the same criteria and at the same levels without any discrimination on grounds of sex. Certain questions now arise therefore which merit further debate. For example, can the organisation of separate technical or vocational education for girls be reconciled either with the concept of equal access to all educational opportunity or with the now accepted removal of sex barriers in later employment ? What is the limiting effect on girls' later choices in the second and third cycles of premature specialisation in the first cycle ? How far does the close relationship of many courses of secondary vocational education in the second cycle to specified fields of employment (as distinct from generic education providing a common base for later training) reinforce girls' and boys' attitudes towards later feminine and masculine stereotyped adult roles in employment ?

2.32 The position of girls in the vocational and technical sectors of education has been spelled out in particular detail mainly because of their direct importance to the achievement of equal opportunity in later employment, but partly also, because it is here that the two aspects of discrimination and inequality are most entangled. The reasons for stereotyping of subject choice or career choice may well lie in psychological and social conditioning. But the actual structuring of schools and courses to define different employment-oriented courses of study solely on grounds of sex risks the challenge of a discriminatory practice. At the least, the structural barriers must be removed and all courses positively declared open to both sexes as an act of policy.

STRUCTURAL AND ORGANISATIONAL BARRIERS

Single sex or coeducation

2.33 Perhaps the most fundamental organisational controversy is the coeducational issue. Are single sex schools a barrier ? What is the incidence of single sex schools now ? Figures of the distribution of schools are not available for all countries. In *Ireland* over 53 % of secondary schools are single sex with rather more girls on roll than boys (except for the vocational schools where boys outnumber girls). In *Luxembourg* over a quarter of girls of secondary school age are in single sex private secondary schools. *France* took a policy decision in 1975 to reorganise all of its schools for coeducation. In the *United Kingdom* there were in England and Wales in 1975 611 schools for boys, 614 schools for girls and 4,135 mixed secondary schools in the public sector. While however, three quarters of these state secondary schools are coeducational (87 % of comprehensive schools), 74 % of the state Grammar schools are single sex and all but 3 of the 174 direct grant (private sector) grammar schools. In *Scotland* there are very few private schools and 99 % of state schools are co-educational and comprehensive. No specific figures are available for the remaining countries but the move to coeducation in *Denmark*, the *Netherlands* and *Germany*, for example, suggests a European trend which may well accelerate. Such additional evidence as is available from the remaining countries confirms a widespread tendency for single sex education to be mainly (a) concentrated in the private sector, and/or (b) educating the academically gifted rather than the average or less able child, and/or (c) organised by the Church rather than the lay state sector.

2.34 The problems of girls in single sex schools are substantial. They may well for example be at a disadvantage in terms of social education, of career aspiration and of maturity. The situation is however complex. There is some evidence on the one hand that the academically gifted in single sex schools may be at an advantage in an apparently greater freedom of (academic) curricular choice. Those girls however who attend single sex vocational or technical schools where these exist and are channelled into "feminine" and lower level vocational training may be equally handicapped in terms of later mobility of choice because of their more limited curriculum. An early research need is to examine the actual effect of single sex or coeducational general education *on both sexes*. The effect of the feminisation of some sectors of interest may be as disadvantageous to boys as to girls alone in terms of restriction of experience.

2.35 There is, in fact, no purpose-designed research available to test the educational performance, behaviour and attitudes of boys and girls in single sex or coeducational schools. Informed opinion from countries who have reorganised partly or wholly towards coeducation suggests that too often girls in mixed schools are in fact "girls in a boys' school". By the time girls reach the age of making decisive educational choices they have, for example, been strongly influenced by what is now described as "the hidden curriculum" - influences in school which are not directly derived from teaching but which reinforce the polarisation of sex stereotyping. There is no *educational* justification for separate playgrounds for boys and girls (some girls are energetic and tough, some boys sensitive and frail); separate cloakroom areas for girls' and boys' coats (as distinct from sanitary provision); or separate standards of acceptable behaviour expected from the two sexes. Constant reference by teachers to "the girls" and "the boys" moreover reinforces facile classification by sex and is an intellectually lazy alternative to defining the relevant individual types or diagnosed groups (the third year, the school leavers, the remedial stream). Some girls are stronger than boys, some boys are socially more well adjusted but less robust - yet girls tend for example to be assigned to look after visitors and make coffee, or to collect younger siblings; boys to carry milk crates and educational equipment.

2.36 To attempt to evaluate whether countries should or should not adopt coeducation as a policy is beyond the brief of this report. More important is the deeper question of establishing which organisational, environmental and cultural factors operating in single sex and mixed schools respectively, influence the attitudes of girls and of boys towards subject choices, extended education, jobs and careers, future adult roles - and towards each other. This requires purpose-designed and accredited research and should be an essential corollary to any plans for further reorganisations.

2.37 One principle problem raised by single sex education is clearly the total lack of free access of girls to the handicrafts and of boys to homecrafts because we have deliberately designed and staffed schools for only the one area of craft study considered "relevant" to each sex. There is a practical problem of finding the resources to level them up. Equally important is the lack of adult "models" of the opposite sex in the teaching force (dealt with in a later section). If research is to be considered into the nature and character of the influences on curricular choices by pupils in the second cycle of secondary education, there may be some merit in structuring, for example, two contrasting research projects in differing countries, one where coeducation is longer established and is almost universal; and the second where coeducation coexists with a substantial number of single sex establishments. The purpose would be primarily, though not exclusively, to examine attitudes of parents, pupils and teachers in

the contrasting organisational and structural situations, in order to form remedial programmes to counteract restrictive or discriminatory influences - when these are more accurately diagnosed. It would be valuable additionally to take the opportunity to include a specific sample covering the special problems of girls in ethnic minority groups, as well as to ensure the selection of areas to examine the aggregation of disadvantage where lower social class and lower ability may coincide with an apparently under-achieving region or area.

Curricular differences between the sexes

2.38 It was said earlier that one purpose of education was to equip young people for the world of work and to supply skilled manpower and woman-power for the country's needs. Accentuation on this aspect is justified because it is an objective considerably underrated by most teachers in schools and because it is the aspect which shows the sharpest sex differences. Such school orientation towards long-term career employment as can be traced is still strongly boy-centred. But it is important that the principle aim of education is not also lost - that is to provide a balanced and thorough general education which will equip school leavers with a sound base for immediate intelligent survival and creative development within the community and the home on the one hand; and a well-balanced basis for later education, training and re-training on the other. An education which is too heavily biassed towards the arts and the humanities, or to the sciences or the crafts, to the virtual exclusion of one or more of the other sectors is no longer appropriate for either sex for the complexity of the industrial and commercial highly developed democracies in which we now live. It becomes important therefore to look at the scale of curricular differences between the sexes, an area of study almost totally neglected by educational research workers in the research-conscious 1960's and 1970's.

2.39 Very little purpose-designed research material and data is in fact available on the extent and characteristics of curricular differences between the sexes. Much of the material has had to be extracted from a variety of sources. Not all published Ministry statistics give subjects or courses studied (as distinct from types of schools attended, divided by sex.

To discuss the whole range of curricular differences in a European context is quite impossible in a short report. No two countries have identical examination systems and the basic organisation of the transition from first to second cycle in different countries differs as radically as do some of the basic educational objectives. In this section, comment is therefore mainly centred on what are seen as three key areas of the greatest concern because of their causal relationship to later inequalities :

(a) the differentiation of craft and domestic studies between the sexes

(b) the underachievement of girls in mathematics, science and technical subjects and the consequential limitations of an arts-based education,

and

(c) the aggregation of disadvantage for the non-academic, and average girl.

2.40 Despite variations in organisation and structure in different countries, the first cycle of secondary education (covering the age range from 10 or 11 years to 14 or 15 in all countries) generally appears to offer a mainly common curriculum for at least the first two or three years, with the important exceptions specified above in the separate vocational or technical schools where these exist. There is one equally important exception to the early common curriculum however - the cross timetabling of domestic economy for girls (in practice mostly cookery and needlework) and of handicrafts (woodwork, metalwork and technical drawing) for boys. This is however unintentionally *discriminatory* and not a factor of inequality since it is an active policy of educational differentiation and not a passive state arising from pupils' background or demographic situation. It is educationally central to the debate on "does equal mean the same, or equivalent ?".

2.41 The educative value of the two areas of study is not, in fact, equivalent. Cookery has very little educative transfer value and is mainly skills based with a low conceptual element. Except for the rare few who study catering it has little relevance to the world of work and is not properly *technical* education. Needlework, if taught as an extension of art, craft and design, has greater potential - for both sexes - but is in fact mainly taught as a domestic skill (mainly dressmaking and home furnishing) in a home-based context. Their place in the curriculum derives historically from an earlier desire to teach basic housekeeping and hygiene to the children of the poor, and it is significant that they are still taught considerably less to academically gifted girls in grammar schools, lycées, gymnasier, etc. If the purpose in focussing a major part of the curriculum for the average and the less able on the home craft, is to ensure competent household management, then the argument is stronger for making these subjects compulsory for boys. The by now apparently inherited maternality and domestic instincts which are used as the basis of "relevance" in arousing the interest of the less able girl mean that she will more quickly learn in any case to combine work or outside activity as an adult competently with her share of running the home. Boys will not - and until boys are educated in school to *expect* to share a full part in both domestic economy and parenthood, their

wives will not later achieve equality in employment, participation in local and central government and community, and freedom for further education and training. If the purpose of teaching the home crafts is to preserve the welfare of the family in an increasingly active economy they become essential for both sexes. If the foundation value and transfer value of other subjects is regarded as more important for the career base of boys, it must be questionable whether this does not equally apply to girls.

2.42 It is widely alleged that the narrower subject of cookery has been replaced by a more widely based "Home Economics". Evidence from the field does not support this except in name - in practice a substantial element of these courses is still taken up with cooking (in some countries, laundry and knitting) and with skills rather than ideas. The science element of "Domestic Science" is rarely evident. The continued emphasis on this area of study for girls only is one of the most influential educational conditioning factors which persuades both boys and girls that domestic responsibility and the dual adult role is a woman's problem but not a man's. It has a deep relevance to the emancipation of non-working women.

The technical craft subjects conversely unquestionably have a major educative value in their own right. Regardless of whether boys later become welders or craftsmen, woodwork, metalwork and technical drawing have several foundation and transfer values not characteristic of domestic economy. They reinforce spatial development and numerical concepts, involving mensuration and spatial relationships from the outset - the very areas in which girls are alleged to be innately weaker than boys and in which girls therefore need early reinforcement not further deprivation.

2.43 They are also more obviously related to the *exterior* world of work rather than the inward-looking home (although woodwork could also be usefully exploited as a domestic craft in these days when home-improvement is a common hobby - for both sexes). They provide a clearly relevant foundation to the kinds of later vocational and technical training which leads to skilled as distinct from unskilled employment. There is a clear causal relationship between girls' exclusion from the technical crafts and their almost total under-recruitment to the training and employment fields of construction, metal trades, electrical engineering, maintenance engineering, etc. because

(a) many training schemes require previous experience in one or more of the three handicrafts as a recruitment qualification,

and

(b) the sex-segregation of home crafts from handicrafts makes the latter a "masculine" activity in the eyes of both sexes.

Adolescent girls are too conscious of their new feminity to have the courage or the insight to break the stereotype and risk being seen as unfeminine by the opposite sex who have just become socially and personally important to them. Boys of the age group 13-16, being less mature, are on the contrary less guided by the opinions and attitudes of girls than of their own peer groups.

2.44 It is widely alleged that the barriers are beginning to break down by natural erosion. The evidence does not support this. Reference has already been made to countries who focus "technical" training for girls on domestic crafts. A special report in *Ireland* in 1972 on the status of women (51) also criticised the polarisation of needlework for girls and practical crafts for boys in the primary sector and recommended that girls should be given instruction in woodwork and the care and maintenance of mechanical and electrical appliances. It suggested that the Department of Education should encourage schools to "go beyond the traditionally accepted range of interests of either sex" (§ 527). By 1976 however, only 71 of the 4739 leaving Certificate ordinary level candidates in Home Economics were boys, a pattern mirrored at higher level; only 12 of the 2156 candidates for Technical Drawing were girls and none for the craft subjects (52).

2.45 The only known recently published curricular surveys which bear directly on this report both come from the *United Kingdom*. In 1973 the government recognised that the problem of sex inequality had its roots in the early years of education. At the request of the Secretary of State for Education and Science (England and Wales) and the Secretary of State for Scotland, the Inspectorate for Schools conducted special surveys of a national sample of schools (10 % in England and Wales, 7 % in Scotland) to determine the extent and the probable causes of curricular differences between the extent and the probable causes of curricular differences between the sexes. Both reports were published in 1975, the first as "Curricular Differences for Boys and Girls", Education Survey 21 of the Department of Education and Science; and the second as "Differences of provision for boys and girls in Scottish Secondary Schools", by the Scottish Education Department.

2.46 The two surveys by the Inspectorate strongly criticised the sex segregation of these two curricular areas of home crafts and handicrafts or technical crafts. They found in England and Wales that 98 % of schools separated boys and girls for these subjects below the age of 16, that more rural than urban primary, middle and secondary schools separated the sexes for the crafts, and that the justification for this was more often given as convenience rather than educational philosophy. Many schools alleged that there were time-tabling difficulties where practical facilities were limited. The division of the sexes for the two craft areas was regarded by head teachers as inevitable. Others declared "separation of boys and girls for certain subjects is convenient for purposes of organisation."

2.47 The causal "*pre-emptive*" patterns of timetabling were also highlighted. Schools which separated girls and boys for home-crafts and handicrafts in years 1 to 3 introduced technical drawing as an allegedly free option in year 4. But only those pupils who had previously studied handicraft might opt for technical drawing. This pre-emptive pattern which applies often to sciences, languages, etc., was common in nearly a third of schools surveyed. The Scottish report also found universal single sex classes in the coeducational schools for these subject areas. Reasons given were "tradition, the realities of vocational requirements, and a reluctance to abandon the convenience of an approximately equal allocation of pupils, by sex, to the subjects concerned." Significantly, it is boys who have begun to break into girls' areas rather than the converse. In home economics girls accounted for 91 % of pupils in the Scottish Certificate of Education but only 78 % at non-examination level. Boys, in reverse, still accounted for 99.8 % of GCE candidates and 99.6 % of non-examination pupils in technical subjects. In England and Wales in 1974 girls accounted for only 2,000 or so entries out of a total of 122,000 entries in technical drawing; 500 and 300 respectively out of 64,000 and 58,000 candidates for woodwork and metalwork. Tradition will be hard to change even when the foundation is laid.

2.48 It must be admitted that even if barriers are removed attitudes will take longer to change. In *Sweden* despite compulsory foundation studies for all pupils of home economics, textile work and combined wood metalwork up to grade 6 (13 years), when options are introduced from grade 7 onwards, 94 % of boys still chose handicrafts and 88 % of girls textiles. (53)

2.49 There is a continuing need for special programmes designed to break down the inhibitions both of girls in school and of women teachers in the whole area of numeracy, science and technology. This is not only because the increasingly complex demands of industry and commerce require a higher degree of competence in most employees than 50 years ago. It is quite as necessary for future citizens to have a good basic grasp of statistics, budgeting, public finance and the technological world in which they live if they are intelligently to participate in decision-making in central and local government - in which women (half of the plebiscite) are still seriously under-represented. Finally there is an immediate problem highlighted by the growing youth unemployment. Girls are on the limited evidence available proving to be more vulnerable than boys in competition for scarce jobs in the receding employment market. They are unlikely to hold their own if they lack, already at 15 or 16, basic education in the physical sciences and mathematics which are essential for a majority of training and employment outlets at skilled level and above in the industrial sector. Mathematics is also a pre-requisite for the intermediate and higher levels of much commercial (not secretarial) training and for business studies.

2.50 Some progress has been made over the last ten years in closing the gap in the first stage of the second cycle. The *growth rate* of girls taking mathematics in *England and Wales* from 1965 - 1975 was 29 % for ordinary level of the General Certificate of Education (taken at 16+) and 71 % at Advanced level (135 % in Northern Ireland), very considerably more than that of boys. Even so girls still only represent 40 % of candidates at 16+ and four times as many boys as girls take mathematics at Advanced level. Now that strong efforts have been made to ensure that all pupils become numerate at least up to the school leaving age, the divergence develops at the optional stage when specialisation intensifies. In *France* although girls are now in the majority as candidates for baccalauréat general and baccalauréat technique (69.7 % and 61.9 % of girls respectively, as against 64 % and 54 % of boys), they are concentrated in series A (philosophy), B (economics) and D (experimental sciences). They represent only 37 % of passes in series C (mathematics) and 3.5 % in E (Mathematics and technical studies). (54) In *Ireland* girls are fully represented in intermediate mathematical studies but then decline as a proportion of higher mathematics candidates at both intermediate and leaving certificate levels, representing only 19 % of the latter. The position is almost mirrored for the physical (as distinct from natural) sciences for those countries whose statistics are subdivided by sex. In *Belgium* and the *Netherlands* curricular differences are even more marked. In 1976 the sex differences for mathematics and sciences in the Netherlands became proportionately more marked for the lower ability ranges, (55) a tendency which is confirmed in other countries :

Subject	Percentage of pupils taking subject					
	VWO(1)		HAVO(2)		MAVO(3)	
	B	G	B	G	B	G
Mathematics General	82	58	61	30	64	27
Mathematics Special	26	5	-	-	-	-
Physics	64	29	42	11	47	10
Chemistry	62	33	44	26	51	35
Biology	51	43	45	55	47	70

(1) pre-university
(2) long general cycle
(3) short general cycle

2.51 An analysis of the available statistics for all nine countries illustrates furthermore that universally girls predominate in languages, social sciences, the creative arts,and music; boys in economics and the more scientifically slanted geology rather than geography. Two central questions emerge. Do both sexes have equal *access* to all ? Do both sexes make unconditioned choices ?

2.52 The two surveys by the Inspectorate in the *United Kingdom* represent the only known quasi-research evidence available to review cause and effect. The context of the surveys was to study the extent to which curricular differences and customs contributed to the inequality of girls and boys. The main findings raise important points of principle on which further in-depth research should desirably be considered and which are likely to be relevant elsewhere. Firstly, it should be noted however, that the United Kingdom differs from most, if not all, of its European neighbours in that there is no compulsory curriculum laid down by law, and in England and Wales in particular the head-teacher and governors of a school have considerable autonomy in deciding on methods of school organisation, definition of a core curriculum and extent and timing of pupils' options. The advantages include greater flexibility of combination of subjects to fit individual pupils' needs; the disadvantages include difficulty in ensuring a minimum balanced core education for all. Moreover both surveys illustrate that pupils' "options" by no means always reflected parental or pupil choice; more often they were influenced by available accommodation, staffing and traditional patterns within schools. In many schools, composite courses reflecting the educational philosophy of staff were offered rather than free options across the full range of subjects.

2.53 One important confirmatory finding was the effect of internal school organisation on options. In *Scotland* girls were offered more practical options than boys, set against academic subjects like mathematics and science, thus making it easier for them to opt out of a "harder" course. In *England and Wales* composite second cycle courses were widely offered restricting, for example, engineering to boys and commerce (in practice typing or secretarial skills) to girls. Under S.22 of the new Sex Discrimination Act this is no longer lawful but both in second cycle (14 to 16 years) courses and in the earlier basic cross-timetabling of homecraft and handicraft, schools now face very real problems in learning to share scarce resources on criteria *other* than sex since demand considerably exceeds supply of staff and accomodation.

2.54 The *actual* access to subjects was analysed in both surveys. The main findings were, firstly, that boys and girls were not in fact *offered* the same access, whatever the theory, in either sample. Secondly, the sex differences sharpened when curricular options were re-analysed to show percentage offered, percentage choosing and percentage actually taking a subject. The following example from *England* illustrates for three key subjects :

	Percentages of pupils					
	Offered to		Chosen by		Taken by	
	B	G	B	G	B	G
Physics	90	71	52	17	47	12
Biology	88	95	31	52	28	49
French	84	89	29	45	24	40

The differences between columns 2 and 4 illustrates the value given to different subjects by schools, pupils and parents. It was found that most boys valued the physical sciences, girls (one) natural science but that fewer boys had access to or chose modern languages or the creative arts even as options. A further analysis of patterns in single sex and in coeducational schools in England and Wales suggested that - contrary to expectation - pupils in single sex schools studying for academic courses had a higher actual rate of both access and choice than those in coeducational schools and were more likely to make non-traditional options. This may be due to a "security of environment", to the presence of acceptable leadership models of their own sex or simply to greater simplicity of timetabling. It must be stressed that there are very few single sex schools in Scotland and that the majority of those in England and Wales are in the private sector or are grammar schools (or both) and have an untypical recruitment. Most children of average ability are in mixed schools. In all three countries the Inspectorate noted that "where the division of the sexes was made, the motive was frequently administrative, usually time-tabling expediency". Questionable differences in curricular content were also found however - "science in the home for girls, science in industry for boys" (Scotland).

2.55 Both surveys confirm that although the *growth rates* for girls (in all three countries) in non-traditional subjects, notably mathematics, physics and chemistry, is substantially greater than that of boys natural growth will not alone erode the still major sex gap. Both surveys also commented strongly on the restrictions of pupil and parental attitudes and their fear of unconventional choices - or their addiction to certain subjects as "vocationally relevant", given employer attitudes in their locality. Field opinion suggests that this becomes more marked for less able pupils. Only where pupils showed unusual determination (by definition unlikely for girls of lower social classes, lesser intelligence, and in some respects from rural areas) were they encouraged to cross traditional barriers.

2.56 Since the surveys were conducted there has been some progress. An increasing number of schools are experimenting with rotational timetabling to offer traditionally sex-based areas of study to both sexes. The Government has issued a circular of guidance to local education authorities in all three countries, placing responsibility with local education authorities, schools and teachers for ensuring equality in education between the sexes. After an extensive public debate on the curriculum and standards in education, the Government has published a consultative Green Paper on "Education in Schools" which includes the problem of equal access for both sexes to the full curriculum, and problems of sex stereotyping. The Green Paper recommended that :

"The traditional division of labour between men and women is rapidly breaking down. The curriculum should reflect this by educating boys and girls according to their needs and capacity as individuals and not according to sexual stereotypes. Care must be taken to see that girls do not, by subject choice, limit their career opportunities. Both sexes should learn how to cope with domestic tasks and parenthood."

Meanwhile earlier research on pupils' attitudes to science (56) is being followed by a research enquiry into science teaching in long-established comprehensive schools.

Sexism in teaching materials

2.57 The problem of both sex role stereotyping and sexism in educational materials and media has been identified as a major problem in all nine countries. The growing realisation of the bias (and lack of realism) of the sexism in teaching materials is a central influence in combating the hidden curriculum. In particular history is especially male-biassed. The content and materials of history teaching are in most urgent need of review. Pupils are not adequately taught about the achievements of pioneer women, about women's role in past centuries when this has been politically or culturally influential, nor about their place in developing social reforms. Programmes of social studies are also quoted as in need of reconstruction to reflect more realistically the actual and desired, rather than the historical or assumed, roles of men and women and their increased interchangeability. This is an issue which can most helpfully be dealt with in a *partnership* of government and those concerned locally - teachers, parents, school governors, voluntary groups. Belotti (59) quotes, for example, the work of a group of American feminists who analysed a substantial sample of children's books and educational readers. In all primary readers the mother was shown in the kitchen althought 40 % of American mothers work in offices or factories. Boys were shown as protagonists three times more often than girls - the pattern is familiar. A committee set up to investigate further, distributed an annotated index of "acceptable" and "irredeemably male chauvinist"

books to libraries, schools and to Parent-Teacher associations. It is at least arguable that Ministries of Education have a similar responsibility to monitor.

2.58 The *Swedish* National Board of Education has recently sponsored a Sex Role Project, part of the work which is to review text books and readers for undesirable sex-typing. The Board has laid down a national guideline that teaching materials should not include texts or illustrations of a sex-discriminatory nature,(57) and a checklist to aid monitoring. *Germany* has also recently begun to review a sample of educational materials and text books in the context of sexism. There is reason to consider urgently what national or international steps would be desirable in order to quicken the pace of further reviews by publishers (58) and teachers, even in countries where neither the content of curriculum nor of educational materials are centrally controlled.

2.59 So far, difficult areas which have been identified have been mainly organisational or structural - the separate organisation of vocational and technical education, single sex schools, curricular differences, the teaching medium. All of these are within the direct control of those organising the education service. One major influence which may be regarded as attitudinal, a matter of indirect rather than direct impact, is the impact of teachers on children and the image that girls or boys receive through the teaching force of acceptable adult models for future behaviour.

Structure of the teaching force

2.60 One of the most influential life-chances affecting the formative years of children is the quality and characteristics of their teachers. Children learn not only by direct tuition but by absorbing the images and patterns of behaviour in their immediate environment. They develop partly by modelling their own behaviour on adult "models" with whom they identify. Much has been written recently about the need for boys as well as girls to see male "models" in nursery education and in the early primary years, but the converse need for girls and boys to see women in leadership roles and to see men and women teachers carrying out completely interchangeable work has been less clearly recognised. Constantly to see men in decision-making, in organisational roles, in charge of curriculum development and teaching the male-dominated subjects, while women are channelled to counselling, guidance, supportive roles and remain in junior positions, teaches both boys and girls to expect to adopt different styles of adult behaviour. It is a widely held view also that both sexes are influenced in their curricular choices by self-identification with the teachers of different subjects. If follows that a continued dominance

for example of men teachers in the sciences (even in primary schools) and of women in the arts will tend to reinforce the constant cycle of boys' and girls' options. The achievement of a balance of the sexes in the leadership of school, as well as across curricular boundaries is of course important also to ensure equal opportunity to women teachers as well as influencing children.

2.61 By the time girls reach secondary education, both they and boys have however already acquired one important social lesson - the view which parents, teachers and society have taught them subsconsciously of different masculine and feminine roles. They have in particular been taught in an early environment in which only women deal with pre-school children. In the primary schools, they see that although most teachers are women, proportionately more of the men in their schools hold leadership posts of head teacher, director, supervisor. The pattern is widespread and is not to be overlooked as unimportant since it teaches the boys, who will be the later leaders in education, government, employment, community, that women are regarded as second to men in decision-making, quite as much as it subconsciously puts a "ceiling" on the expectation of girls. If Michel, Sean, Dag or Bobby are brought up in an early teaching and learning world in which women do *not* hold equal roles with men they are very unlikely later to invent a new world where women do. The actual position of women teachers at first level is that they are in an overall majority but are under-represented as head teachers. In the Netherlands only 4.0 % of primary school heads are women (60). In *France* in 1976 women accounted for 67.7 % of elementary schoolteachers, men only 32.3 %. But only 47.1 % of the head teachers of multiclass primary schools were women while 52.9 % were men. (61) Of all full-time teachers of the 10 years and under age group, women teachers represented 81.3 % - but only 61.4 % of head-teachers. (62) In *Ireland* although women account for 71.8 % of primary full-time teachers, they only represent 52.0 % of primary head teachers, principals and vice-principals. (63) In the *United Kingdom* in 1975 76.5 % of all teaching posts, but only 42.9 % of headships, in the primary sector, were held by women. (64) In *Italy* women account for 68 % of first level teachers but only 31 % of head teachers.

2.62 There are two disturbing trends in the distribution of second level teachers to which attention might profitably be directed. The first is the actual *decline* in the proportion of women holding senior positions in some countries over the last ten years. This has happened in direct relationship with the reorganisation of single sex to coeducation and applies throughout the education service - in the coeducational reorganisation of colleges of teacher training for example as well as in primary and secondary schools. The second is the tendency as schools become larger on reorganisation (for mainly economic reasons) to polarise the roles of men and women teachers in school administration (men into organisation and control; women into "caring" roles) instead of making them more interchangeable. It must

be stressed that there is no entirely common pattern and that evidence is here too extremely limited and variable. There are strong arguments for carrying out research into barriers to promotion and the difficulties experienced by married women, in the teaching sector, not because teachers are a disadvantaged group but because of the considerable influence that the breaking of sex roles in teaching would have on the next generation of children.

2.63 Figures have been obtained for some countries illustrating the predominance of women in the main body of the profession and their under-representation in leadership. In *Italy* although women represent 48 % of all full-time secondary school teachers only 14 % of headteachers, principals at second level etc. are women. In the Italian middle schools although women outnumber men by two to one only 30 % hold a headship. The difference in *Ireland* at second level is less marked (mainly because of the high number of girls' schools), with women holding 39 % of all second level headships (but 61 % of all secondary teaching posts). (65) In *France* also women hold about a third of all secondary headships, but there are signs that increasing co-education is beginning to reduce the proportion of top women. The strongest evidence of the co-educational impact comes from the *United Kingdom*. In Scotland with almost total co-education men hold 96 % of secondary headships, 92 % of deputy headships and 77 % of third tier posts. (66) In England and Wales about three-quarters of all secondary schools are now mixed after a steady programme of reorganisation over the last ten years. But already in 1965 the 38 % of secondary headships held by women ten years previously had declined to 24 %. In 1974 it was 18.8 % and provisional figures for 1977 suggest a further decline although women still account for 44 % of all second-level school teachers. (67) It is thought that the trend for larger schools and the constant process of reorganisation and its additional demands are among the reasons which make women unwilling to apply for top posts. There is no reason to suppose that the position of women in teaching is more favourable in other countries.

2.64 Consideration should be given to further enquiry into a possible re-deployment of women and men teachers although it will be necessary to ensure that this does not contravene anti-discrimination legislation - or the principle of the best person for the job. There seems a need to develop positive national policies to encourage

(a) more men teachers to teach in the primary sector;

(b) more women to seek secondary headships and deputy headships or supervisory posts;

(c) more women to train to teach subjects hitherto dominated by men and vice versa;

(d) further enquiry into the actual work and duties assigned to women and men in secondary schools to attack sex stereotyping of roles.

2.65 The allied question of in-service training is of wider importance than the needs of teachers. It is characteristic of the belated realization of the seriousness of educational inequality between the sexes and of its causes that even in the United Kingdom, whose Sex Discrimination Act was substantially debated publicly in its formative stages from 1970 to 1975, in-service training programmes have not yet been developed to re-educate teachers to understand and counteract sex-role stereotyping in education. Yet special programmes have been funded for many years for the equally important re-education of teachers about social class deprivation and under-achievement (the Educational Priority programme), about multi-ability teaching, about multi-racial education and about urban deprivation.

2.66 There is a need to introduce material on sex roles in education, on the effect of organisation on girls and boys, and on women's status in society, to all programmes of initial teacher training. There is little information available about the content of current courses but informed opinion suggests that very few teacher training institutions include "women's studies" or the implications of sex differences in schools in their basic programmes. The added problem of teachers' under-exposure to the external world of work leaves them ill-equipped to counteract girls' (or boys') traditional attitudes. In particular we need to inject into all teacher training programmes the newer approaches to child psychology, which either question older theories of innate (intellectual) sex differences, or which develop new approaches to counteract the effects of early childhood pre-conditioning to set patterns of behaviour. The concepts of any overall or homogenous "masculinity" and "femininity" need especially to be questioned in educative terms. There are more differences within than between sexes.

2.67 Retraining of teachers for new curricular areas would also improve the sex balance in different subjects. In the *United Kingdom* the Secretary of State for Education and Science has initiated a special programme in co-operation with the Manpower Services Commission to retrain existing teachers for the teaching of mathematics, sciences and the craft subjects to meet a further teacher shortage in those areas. Similar programmes could be developed in co-operation with Ministries of Employment to retrain women teachers for important curricular areas hitherto male-dominated and vice versa to meet regional or specialist needs.

2.68 Teachers and parents will hand on attitudes undisturbed from one generation to another. Teachers who are aged only 40 today were trained in the mid 1950's before even the technological expansion of education of the 1960's. Only a minority will voluntarily or with instinctive insight have radically changed attitudes which were formed in a totally different climate. In-service re-education is an urgent need.

2.69 Among the structural/curricular group of limits identified so far, most have been centered on the twin questions of access or of choice. A further barrier to the unfettered and free development of both sexes in achieving educational choice leading to educational equality, is the structure and provision of careers guidance, which emerges as an issue of concern but of potential constructive influence, in all countries.

Careers education

2.70 The word "career" has become identified in the modern mind with advancement in paid employment, and this is likely to remain its principal context, in discussing vocational guidance and training. It is important, however, in discussing the role of secondary education in preparing girls for full adult life as women, to recognise also its wider meaning. The Oxford dictionary's definition of the English word "career", includes "a person's course or progress through life" (not work), while Larousse defines "carrière" similarly as "cours de vie" as well as "profession". In German "Laufbahn" and "Beruf" also are defined as a "course to be run", in addition to their traditional meaning. It is in this double context, that this section on careers guidance is written. That is, in educating girls for a career, we should be preparing them not only for the world of work, but for other roles like participation in government, for community work, for later adult education and for retraining. Not all careers need be salaried. We should also note the increasing tendency for the need for mid-career changes, caused by recessions, mobility of employment or personal factors. More men and women will need to face the need to retrain for a new career. Education for later change has implications for girls' choices both of basic curriculum and of specialist courses.

2.71 The opening paragraphs of this section looked at vocational education in the context of its undesirably separate organisation for girls. The stage at which the girls are required to make irrevocable choices between a general studies course and a specialist vocational or technical course is central to the whole area of careers guidance and

counselling, a crucial factor for change. Other Commission initiatives have examined or are examining vocational and careers guidance and it is not perhaps necessary to repeat much of the evidence here. An earlier report (68) recommended that among aspects needing further study were the development of non-discriminatory educational guidance and a widening of the range of choices of careers offered to both girls and boys as part of vocational information and guidance schemes. The report went on to say that :

"As regards equality of access to vocational training, the Directive aims at eliminating such discrimination against women as persists in education, vocational guidance and initial advanced vocational training (Article 3). Furthermore, the distinction made between girls and boys both in general and technical education and vocational training systems often leads to girls having a different educational programme and a lower level of qualification. *Equal opportunity in employment is dependent on equal opportunity in training.* This in practice involves comparable general education for both sexes, with comparable educational and vocational guidance, and equal opportunity in access to initial and advanced vocational training and retraining "

2.72 In the light of the questions already raised in this report it may be a matter for early discussion whether "comparable" but different education would in fact lead to equal opportunity. About 95 % of the government of most education services are male and it is perhaps understandable that men traditionally have seen home-based domestically slanted "technical" and "vocational" education for girls as "comparable" to that for boys since their criteria have not hitherto had to be defined. If the criteria becomes educational and not social, comparability becomes irrelevant. If each individual pupil is to be encouraged to follow courses of study which are personally right and relevant - regardless of sex - careers guidance in choice of curricula must also be totally free of sex bias or social assumptions. If cookery were in fact equivalent to metalwork there would be no disadvantage in boys being channelled to it. If the female-dominated biology were in fact to provide the same basis for further scientific study as physics with chemistry there would be no reason to persuade boys to the latter at the expense of the former. The fact that boys (and their advisers) continually reject "girls' subjects" places their long-term value and comparability in question. It is therefore a matter of central importance to establish what in fact is equal and the same careers guidance for both sexes and when it should be introduced.

2.73 It appears to be generally agreed that vocational (careers) guidance for young people is introduced too late to be effective, for too short a time, and that those careers teachers and counsellors who are based in schools tend to have an inadequate and often an inaccurate or irrelevant understanding of the real world of work, industry and

commerce. There seems also a widespread pattern that careers education is regarded as an extra or optional activity and not part of the central educational provision and that it is more vulnerable to financial recessions in public spending. If any progress is to be made in breaking down sex barriers in employment and in the vocational training (and hence the guidance) that leads to the world of work, *careers education must be recognised as an essential integral part of the curriculum, as inviolate as mathematics and the teaching of the mother tongue.* Moreover in most countries the greater investment in vocational guidance is provided by the Ministries of Employment or Labour and programmes are often still more geared to school leavers - usually in their last year of schooling. Resources need to be re-deployed to concentrate more intensive work in the age range 13 to 16 years with a concurrent increase in training programmes to produce more qualified careers teachers.

2.74 There are three reasons for shifting the focus for programmes of careers guidance from 15 plus to before the end of the first cycle of secondary education. The first and predominant one is the need for girls to acquire some understanding of their adult roles and of the world of work *before* deciding on specialist courses or the discontinuation of some key subject area (in most countries, possibly well before the age of 15). The too early specialisation of vocational education in some countries either in the first cycle or at the beginning of stage I of the second cycle has been identified as a barrier to later choice. It follows that if later career choices are being pre-empted by girls opting for specialised courses or "feminine" training as early as in the first cycle or at 14 (e.g. after Italy's scuola media), they need *prior* guidance about and understanding of women's future economic role, about work, about dual adult responsibility and about the choices of further education and training that will be blocked, or opened,to them according to their curricular choices in school.

2.75 A second reason for the earlier introduction of careers guidance is girls' earlier physiological and psychological development than boys, which means that at the time at which they are making decisions between schools and courses they have already become more conscious of their future roles as wives and mothers. This is strongly reinforced by the mass media and by advertising. Boys of the same chronological age, up to three years behind in physical maturity, are likely to be less influenced by this. It becomes important for a kind of new guidance and counselling, which includes new material or inter-changeability of adult roles and the adjustment problems of *dual* home and work responsibility, to be timed to coincide with the onset of the transition from girl to woman - not several years later. This would help also to counteract social pressures, traditional social expectations and social myths in girls' minds - especially concerning work and marriage.

2.76 Thirdly, much earlier exposure to material about the real world of work - and to male-dominated work - is necessary to ensure that girls as well as boys see industry and technology as a fundamental and integral aspect of the social and cultural content of education. In most European countries some form of work experience, of linked courses with post-school colleges offering job-related courses of vocational education (in the United Kingdom), or "participation education" (France and the Netherlands), are introduced from 15 years onwards. These are still however widely sex linked - boys to engineering workshops, girls to offices and shops - the United Kingdom Inspectorate surveys gave many examples of link courses (school to further education) restricted to boys only or to girls only on wholly traditional lines as part of careers development. The effect of the Sex Discrimination Act 1975 (making discriminatory provision by co-educational establishments unlawful) does not alter the need for a substantial programme of retraining and attitude changing in teachers and in careers educators who plan such courses, on the basis that they reflect parent and pupil demand. Earlier careers advice and non-discriminatory materials will alter pupil demand. We do not ask for what we do not know we can have. Supply determines demand as much as the reverse.

2.77 An important influence is the image which girls and boys see around them of their expected roles. The Sex Discrimination Act of the United Kingdom makes it unlawful to advertise jobs for men only or women only (with very rare exceptions indeed). The legal standing of careers literature under the advertising provisions of the Act is still not wholly clear, but there is no doubt whatever that the climate created by the debate conducted by the new Equal Opportunities Commission set up to monitor the Act (and to apply enforcement in the case of advertising) in England, Wales and Scotland, (69) has caused a widespread review of discrimination in careers literature and of careers directories. The careers service, and notably the Careers Officers (employed by local education authorities to advise pupils, develop careers education programmes, help to place school leavers and provide a bridge between schools, colleges and employers), have taken the lead in helping to persuade publishers to reprint careers literature not only to eliminate discrimination, but positively to illustrate girls and boys, men and women working in occupations not traditional to their sex.

2.78 An earlier report of this Commission has already extensively covered the problems of the transition from school to work (70) and [illegible] preliminary outline should be seen in the context of the earlier detailed evidence which it is not appropriate to repeat here. Most countries are recognising that counselling and guidance need to be further developed in secondary schools as well as in the transitional years, and the variety of experimental schemes already in operation merely reflects the marked characteristic differences in the organisation of schools and of systems. In the context of this

report, some main principles can be summarised as needing urgent consideration in the context of developing programmes of equal opportunity. Careers education should involve elements of positive discrimination to encourage girls to enter non-traditional areas of study of further education and of vocational training and employment. It should begin by about 12 or 13 years of age and at least two years before the beginning of the second cycle and well before specialisation is introduced. Counselling and guidance should not be based on the assumption that girls will relate better to women and boys to men. Both sexes should be accustomed to working interchangeably with boys and girls and vice versa. Careers education programmes should include more material on choice of interchangeable adult roles, changing patterns in society and on the concept of the unpaid career involving participation in government and leadership in community work. Programmes aimed especially at the possibilities for young women to combine marriage with part-time leadership roles in local and central government, in politics and social reform, will become especially relevant if high juvenile unemployment continues; and in those countries with a tradition of low participation of women in paid employment. Programmes should highlight for both girls and boys the need to achieve a sound, balanced basic education suitable for later retraining and recurrent education as employment patterns continue to change. This is likely to mean compulsory mathematics, science, and some language competence, up to the first level of public examinations or qualifications (about 15 or 16 years), for most pupils.

SOCIAL AND DEVELOPMENTAL BARRIERS

2.79 There are a number of additional hurdles which girls have to surmount, which may be grouped as psychological, developmental, social or environmental rather than organisational or curricular. Earlier puberty has been mentioned. Girls' relationships with the opposite sex tend to hinder the development of personal ambition or a desire for training and (in the case of those of only average ability) extended education. This is partly because of the acquisition of social assumption of feminine dependence, at an age when boys are being conditioned to a protective and providing role for which education and training are seen as an investment. In a coeducational environment, boys become more decisive, girls more supportive. In the home each sex will tend to model themselves on their own adult peer - boys on father and girls on mother. Parental influence is the most decisive in the formative years to which even teacher influence comes second. While this report concentrates primarily on governmental responsibility for issues capable of control and design by government, the inverventionist role of the education service should not be minimised. Schools need to seek parents' co-operation in change.

2.80 The influence of parents has been interestingly illustrated in a recent French research study of pupils following courses leading to the Certificat d'Aptitude Professionnelle in Northern France. (71) Among the aspects studied were how pupils perceived the aims that their parents had for their children's futures. The two strongest variables identified were sex and social class of the children - and the aggregation of disadvantage again confirmed the double handicap of being a girl of lower social class. The researchers found that twice as many parents of girls as of boys were less concerned for the vocational training and working future of their children - in this case, daughters. Replies to the questionnaire showed startling differences of expectation :

"la différence des projets pour les garçons et les filles qui manifestent une intériorisation extrêmement forte des stéréotypes des rôles masculins et féminins dans la société ... le marché du travail masculin et de son homologue féminin"

2.81 Also, the only girls whose expectations rose to managerial or leadership roles in employment were those whose parents were of that background. The study confirms the lack of relative ambition of girls and the lack of interest of more parents of girls than of boys in developing a future or a career for them.

2.82 It is not suggested that the education service can alter society. Whether it should attempt to do so on any scale may be debatable. But schools and colleges are the first and major contact which parents have outside the home and we have a duty to awaken their ideas and their perceptions to the needs of girls. The development of Parent-Teacher associations, of parents' advisory councils and groups, and of increased parental involvement in the management and government of schools, is an international trend. It offers an especially valuable opportunity for increased partnership in attacking the hidden discrimination of sex role stereotyping and of traditional forms of feminine under-achievement.

2.83 The timing of the introduction of careers education was quoted above as a structural and organisational barrier. The character and influence of its content and style must be equally counted as an attitudinal aspect. Careers education can either reinforce or counteract traditional sex roles and is a potentially powerful tool in changing attitudes of girls, parents and employers alike. One problem for example which has been highlighted by evidence from the Federal Republic of Germany, Italy, the United Kingdom and France in particular is the greater tendency of girls to give up too soon, to apply only five times and not - as boys do - fifty times, for those

training opportunities which do offer themselves. Girls show greater diffidence, retiring into what one German report describes as "silent resignation"; or accepting whatever is immediately possible rather than holding out for the most suitable outlet for their ability at a more ambitious level. There are many who are convinced that this "poverty of aspiration" of girls is a direct result of their conditioning by teachers in the years of adolescence to an expected supportive, subordinate role of domesticity; of wife and mother first, and of citizen and worker decidedly second in girls' role aspirations.

2.84 A longitudinal study carried out by the German Institute for International Pedagogic Research, on the criteria on which decisions of vocational choice are made revealed that the young people surveyed were more influenced by capability and confidence than by personal interests. The research also confirms the need for much earlier vocational guidance - in the survey it was in the seventh year of schooling that personal capability was most influential as a factor; but by the eighth and ninth years personal confidence was more influential especially for girls. It was argued therefore that vocational guidance should be timed to be introduced not later than the seventh year. (72)

THIRD LEVEL EDUCATION

2.85 Although it is strictly beyond the remit of this report, the pattern of young women's recruitment to and takeup of third level education is of course causally influenced by the extent and character of girls' preceding education in schools. School leavers' options are clearly directly related to the pattern and conditioning of second cycle education. Several trends are again almost universal across all member states. Firstly, men still outnumber women by two to one in universities; the sex gap has narrowed very little. Secondly, the pattern of studies followed by girls mirrors the sharp sex-typing of curricular choices in schools - predictably and causally. Thirdly, women are most seriously under-represented in third level technological and technical education, although their minority is becoming statistically significant in some areas of study - in Denmark for example 14 % or architecture students are women. Women are in too small a minority however in those third level studies which lead to roles of governmental importance in society; in management studies; in the legal profession; in economics and politics; in technology. Women will not be adequately represented in the leadership of society if they do not pursue the advanced studies which remain still the major route to decision-making and leadership. The picture is familiar. More girls enrol for long second cycle academic courses in most countries but their dropout rate is higher and they tend to aim at lower terminal qualifications. The role of second cycle schools

in raising girls' aspirations to third level studies must not therefore be overlooked - there is urgent need for further study of this aspect.

SUMMARY

2.86 It is difficult to summarise succinctly the findings of what is necessarily a selective survey of a complex issue across nine distinctive countries. The overall picture is one of widespread under-achievement of girls; and of identifiable discrimination both in the original literal sense of the word (the Latin *discriminare* means to divide, part or separate) and in its modern sense. The lower recruitment of girls to university is common to all countries. Although in most countries more girls enter pre-university secondary education fewer achieve the full qualifications for university entrance in some countries. Fewer girls enter non-domestic or technical training at second level; and such training as is followed by girls tends to be skills based and not careers-based (secretarial skills for example rather than business education or management studies). In countries where youth unemployment is unusually high or where training demands outstrip supply, more girls fail to find training places than boys and the aggregation of inequality of social class, region and lower intelligence operates more to the disadvantage of less academic girls than to boys.

2.87 In the opening section of this report the barriers to equal opportunity were defined in four categories. Some have proved to be universal; others applicable to some but not all countries.

(a) Structural barriers

2.88 The organisation of separate girls' schools is one major barrier to completely open choice of education, principally because of the different and more limited curricula designated as "suitable" both in grammar schools, gymnasier, lycées, etc. and in schools for the less academic. It is impossible for girls to follow courses of study leading to male-dominated vocational training (and the employment sectors for which these prepare) if girls' schools do not offer them in the first place.

2.89 The separate organisation of vocational and technical education and training for girls and boys must be counted as the second barrier. Radical changes are needed here. The concept of a separation of the adult labour market into men's work and women's work will never be

abolished while we continue to plan, design and organise vocational education and training separately for boys and for girls, and to advise and guide girls and boys differently towards training and employment outlets regarded as distinctively "suitable" solely or mainly for one sex, or for the other. Vocational education should always include a non-specialised preparatory year to ease choice and to provide a better basis for later transfers.

2.90 Barriers such as the need to repeat a whole year if one or two subjects are failed or the need to repeat a full stream if a pupil wishes to change streams (for example, Belgium's streams A and B) also act as a serious motivational disincentive and should be discontinued. Ways should be encouraged of giving pupils credit for work well achieved and remedial help for work imperfectly grasped without the need to repeat full years. In actual fact more boys than girls repeat years, but the need for flexibility is important in adolescence for both sexes to discourage premature leaving. Young people should be able to remain with their peer group and move up schools with them whatever their educational attainment. Chronological age and mental age are never coincident across a whole age range in any event.

(b) Curricular barriers

2.91 It is not only those countries which organise vocational and technical education separately for the two sexes who have need to review the structure of their second level system. Premature specialisation is a third problem as common in countries like the United Kingdom, whose secondary school systems tend to be flexible with ease of transfer between schools, streams and courses, as in the more rigidly structured *Netherlands*, *Belgium* or *Italy*. The structure of school timetabling needs review to create more open access. Any system which allows - or even encourages - any girls to discontinue such basic central subjects as mathematics, physical sciences or a foreign language by an open option or choice system before the age of 15 or 16 is condoning a curricular barrier - the absence of a common core or central curriculum needed by all young people as a balanced basis for later choice of opportunities in further education and training.

2.92 Integrally related to this is the undesirable but traditional curricular polarity of designating the technical crafts (woodwork, metalwork and technical drawing) as "suitable" for boys only and the domestic crafts for girls only for all the reasons already outlined. This is a more serious barrier to the full motivation of less able girls towards training and employment (very few academically gifted girls waste time on cookery and laundry) and is capable of definition as direct discrimination against them. Conversely the

freedom of boys from domestic education, child care and parentcraft, etc., acts as a *further barrier to women*, in that when boys later become husbands and fathers they are ill-equipped to take their full share of domestic and family responsibilities. Part III suggests some developments relevant to this and to the problems of core curriculum.

2.93 There is universal agreement that the sexism and sex role stereotyping of educational media and teaching materials is also a curricular barrier to equal and identical education as well as an adverse quasi social influence depressing girls' motivation and aspirations. Among the psychological and developmental factors of inequality, the main ones to emerge as widespread are girls' earlier physical development, parental influences, girls' lack of ambition and a desire not to outshine boys in adolescence, the conditioning of "the hidden curriculum" and girls' excessive identification with the female teachers and lack of identification with the male educators. Among social and environmental barriers the over-emphasis on women's domestic role, the extremes of public perception of men's work and women's work and the influence of the home environment of region, town or country have been identified as of widespread relevance and influence.

2.94 It is neither possible nor perhaps wise to attempt yet to draw generally valid final conclusions from the evidence and material on which this outline report is based. With each general problem highlighted there may be individual countries where the position differs. It is important to cross-relate apparent under-achievement or over-representation, or characteristics in different strands of the secondary sector with other aspects of the economic, educational and employment structure of each country. To draw actual firm conclusions in each country will require further and deeper enquiry and wider study. Nevertheless there are a number of important policy issues which already present at least a prima facie case for further enquiry or for action either because they are of universal relevance on the evidence so far or because they are common to a majority of countries, or because they have been so clearly identified in some countries that they are likely by analogy to be relevant in others having similar systems. Part III which follows attempts therefore to suggest some of the areas suitable for further study, and some possible courses of action to ensure progress and development towards achievement of real equality in education and training.

CHAPTER III

THE WAY AHEAD

3.1 Strategically, there appear to be two main dimensions for further action. Firstly, the removal of actual barriers preventing equal (and identically accessible) education between the sexes; and secondly, the more difficult task of furthering the promotion of equality through diagnosis, analysis, positive development programmes, research-based enquiries and retraining programmes.

THE REMOVAL OF BARRIERS

3.2 There can be no doubt that if the arguments advanced in this report are held to be credible, responsibility for removing structural and organisational barriers must lie directly with the Ministries of Education, with local education authorities where these exist, and with others such as the teachers' unions who participate in the planning and government of the education system. Four principal organisational areas on which action might first centre are coeducation, vocational and technical streams or schools, curriculum construction and careers/vocational guidance.

(a) Coeducation/single sex

3.3 While universal coeducation would remove two barriers to equal opportunity (both by providing actual access to all curricular facilities and to staff for all subjects, and by establishing a basis for improved social education), it would be unrealistic to attempt to impose this where the control of single sex schools does not lie wholly or mainly with the state. Nor is it necessarily helpful to reorganise unless the country is willing or able to place all of the necessary resources for buildings, adaptations and staff at the disposal of the relevant authorities in advance of reorganisation.

Coeducation is nevertheless regarded by an increasing number of educationalists, including the writer, as highly desirable. Three questions however need further enquiry. Firstly, why do girls (and boys) appear to be more restricted and more stereotyped in attitudes and choices in mixed schools than in single sex schools ? Secondly, if single sex schools are preserved even in part of each country should there be legislative action to oblige the governing bodies or authorities concerned to ensure that the *full* curriculum - and therefore the resources for this - are available to the girls and boys who are not yet in mixed schools ? For full equality in the curriculum to be limited to those pupils who happen to be in areas with mixed schools is a highly questionable principle. Thirdly, if and when coeducational reorganisation is agreed in principle in any area, what steps can or should be taken to ensure equal access and the same curriculum in the interim years pending full reorganisation ? Research of the kind outlined in § 2.37 above is a necessary corollary to further moves to coeducation.

(b) Curriculum Reform

3.4 The two aspects of curriculum construction identified in part II as disadvantageous - the absence of a universal central core of compulsory subjects, and the lack of technical craft studies for girls - need urgent review. It is widely alleged that it is impossible for educationalists to agree on a core education. Employers, training bodies and establishments of further and higher education appear to have considerably less difficulty. Very few if any regard mathematics, science, the mother tongue and some exposure to one of the major humanities (history, geography, social studies) as optional.

Many value foreign languages also (the decline in the teaching of which must be a matter for regret for both sexes). The Munn Committee on the curriculum in *Scotland* proposes a national core curriculum of English, Mathematics, Science, Physical Education, social subjects, Creative Arts and Moral religious education; and the Inspectorate in England and Wales is conducting a similar exercice of re-definition. It is essential to the achievement of girls' equality that they are not allowed to cease mathematics and science before reaching the school leaving age, and preferably that they should study some science and technology as minority subjects thereafter if they follow then a mainly arts-based course.

3.5 The definition of curricula for academic and non-academic pupils for vocational and technical courses rests with the Ministries of Education in eight of the nine member states (the United Kingdom being exceptional in delegating this not in fact to local education authorities but to schools themselves). The construction of most

programmes shows certain variations in the criteria and characteristics of planning. Foreign languages are regarded as core subjects in Denmark, the Netherlands, Luxembourg and Belgium, and as optional subjects in the remaining countries. Physics and technology are widely regarded as more relevant to the academically gifted and to boys. The technical and domestic crafts are taught primarily to the less able and do not form part of a central core either available to both sexes or to all ability groups except in Denmark. In *Denmark*, needlework, woodwork and domestic science are taught to *all pupils* in the Folkskolen (basic nine year schools) in the fourth, fifth and sixth years (i.e. the age range approximately 10-13). Physics and Chemistry and German are also compulsory for all in the seventh to ninth forms; English in the tenth form. (73) In those countries who do not provide rigidly streamed first cycle vocational and technical courses, there is a stronger common curricular base across ability ranges and schools (France, the United Kingdom, the F.R. of Germany) than in those with strong segregation (Luxembourg, Netherlands, Belgium, Italy).

3.6 Most countries will need to reorganise their systems as the school population falls. The deferment of specialisation and the establishment of a compulsory and balanced central curriculum up to school leaving age to which options can be added, on the lines of the French system, should be seriously considered as a strategy for offering girls (and boys) a better foundation for later choice of third level education or for training for employment.

3.7 Some current trends in curriculum reform may be helpful to girls if they are applied as part of the central or "core" curriculum. The technology element in the secondary school programmes has been increased in Belgium, France, Italy and in England and Wales. If all pupils were compulsorily exposed to this as an essential and normal element of an education which needs to prepare pupils for the twenty-first century girls would be less likely to continue to regard technical and technological education as male preserves.

3.8 Secondly, the place of skills like cookery and laundry and knitting in the school curriculum at the expense of the more crucial subjects of mathematics, science, craft work and foreign languages, should be questioned. Consideration should be given to either exposing both sexes to all craft areas including home maintenance and basic home technology, or to deferring domestic subjects (for *both* sexes) until the final or penultimate year before leaving school, on the basis that they can be learned much more quickly than the technical crafts and their relevance only becomes immediate when domesticity of some kind is on the relatively near horizon. The stronger educational transfer value of the technical crafts on the contrary makes it desirable for all pupils to follow them at least for part of the first cycle, probably from the age of about 12 or 13. Education in personal

relationships, social roles and the duality of domestic and external adult responsibilities in marriage could desirably replace lower level domestic skills. They should be compulsory for both sexes and should ideally be introduced to coincide as nearly as possible with puberty.

3.9 Meanwhile, there are admittedly substantial practical problems of sharing out limited accommodation and staffing resources traditionally provided for only half of the age range, whether it is the homecraft/handicraft problems or the scarcity of full ranges of science laboratories. Educational planners and senior staff in school need to learn new methods of school organisation without sex discrimination.

(c) Vocational and technical courses and careers guidance

3.10 No action programmes aimed at removing sex barriers in adult employment, whether at Community level or in member states, are likely to be more than marginally effective while courses of vocational and technical education and training in both first and second cycles are based on different vocational schools, courses, programmes and careers-orientation for girls and boys. An earlier Commission report highlighted the wider implications of this (74) :

"The right to education and the right to work have as their corollary, the right to vocational training and guidance. These rights are all the more difficult to exercise when it is a question of "joint" rights which have only recently been accorded. Their exercise for women requires not only the voluntary action of States, but also a social consensus regarding the role of women in Society."

It follows that Ministries and educational planners will need to examine the organisational implications of this.

3.11 However desirable and necessary it is to focus on breaking into male-dominated education and training programmes, it would be equally wrong to neglect the traditionally female areas in the short term. Here the need is rather to raise girls' levels of aspiration even if they continue to be influenced to "female" areas of work and to persuade them to aim at higher qualifications and to encourage them to invest in training suitable for later retraining and progression, rather than lower level "dead end" courses. Careers guidance is an important tool in this level of attitude changing.

3.12 The general weakness of careers guidance however is that it tends to be planned and organised in disassociation from the construction of curricular routes through the system. Its earlier introduction in the first cycle as suggested in part II implies also an increased interdisciplinary approach involving teams of staff who include teachers, external industrial and commercial training officers or advisers, and regional or sub-regional personnel, expert in the practical demands of different kinds and levels of employment and training.

3.13 The responsibility of the government for education does not solely rest with ensuring that the education system is not discriminatory or actually hindering equality. We have a direct responsibility to promote equality and positively to help the disadvantaged - in this instance girls and women. The first principle to be considered is that of *positive discrimination*. All of the statistical and much of the research evidence illustrates that, without direct action programmes and interventionist strategies, "natural trends" will neither narrow nor close the sex gap in educational achievement or indeed in expectation.

3.14 If is of course important to recognise that the particular problems of girls cannot be examined or remedied without relating them to the education of boys; nor indeed out of the context of the educational system as a whole. It is less obvious that educational planners have now a direct duty to ensure that the organisation of education and the specific allocation of resources (teaching staff, accomodation, materials, money and grants) is not conditioned to a priority for boys when demand outstrips resources. It is central to the breaking of the circular wheel of girls' underachievement that programmes of positive discrimination in favour of girls are created and maintained until they catch up with their male peers.

POSITIVE DISCRIMINATION

3.15 This was first recognised in the field of vocational training in which a number of countries have experimented with pilot schemes. These are primarily centred on employment-based training but the principle should ideally be adapted to training programmes in the school sector if long-term progress is to be made. In the Federal Republic of Germany for example the Education Minister has promoted a series of pilot programmes and schemes specifically aimed at introducing more women to training programmes for fields of employment hitherto regarded as exclusive to men. For example, the Continental Rubber Works at *Hanover* has set up a pilot project, in co-operation with the Ministry

and the Union of Chemistry, Paper and Ceramics workers, to train girls in the mechanics of measurement and adjustment, turning, milling, chemistry and mechanical services. The project is not only being supported financially by the Ministry of Education and by the Lower Saxony Ministry for Culture but is being monitored by both scientific and socio-pedagogic research.

3.16 In *North Rhine - Westphalia* the youth employment programme includes a series of schemes to promote the training and employment of girls and women in industrial and technical fields in particular. For a period of three years, employers are being granted 400 D.mark monthly as an employment subsidy provided that they create additional working posts for women in 54 trades which so far have been almost exclusively male as well as in 27 employment outlets which have so far been reserved for girls and women. The firm of Thyssen, Henrichs-Hutte in *Hattingen* is setting up a pilot scheme in co-operation with the Federal Institute of Employment to retrain unemployed women as testers (Prufwerker). This scheme will carry both social and teaching help for the women trainees, funded by the N.R.W. Regional Union. 100 girls will also be trained as electricians, toolmakers and turners under special schemes promoted and funded by Nord Rhein-Westphalia and 5 Chambers of Industry and Commerce.

3.17 One important angle of the Federal Republic's programme of pilot schemes is scientific monitoring of the girls' progress and the provision of special support services both in the learning-teaching sense and in terms of their social and personal needs. The German Ministry has also recognised the need to disseminate the information and experience of the pilot projects to other interested agencies during as well as after the training schemes.

3.18 It is interesting that in the preliminary stages of the German pilot projects referred to above, boys tended anxiously to ask whether such schemes for girls would not create "unnecessary competition" for them - thus illustrating that their second level education had already taught them (wrongly) to expect automatic priority in the right to work. Yet there is evidence from a number of countries that where girls do take up training (either at second level or later) for non-traditional areas, their success rate tends to be proportionately higher than that of boys; and that the traditional fears that they would not be able to adjust or adapt to a "male" environment are quite unfounded.

3.19 The *United Kingdom* has included the principle of positive discrimination into its new legislation (The Sex Discrimination Act, 1975) under which, although discrimination in training is now unlawful, training programmes may still be set up for women only (or for men only) if they were not previously or were very little represented in the field of employment related to the training. A weakness of the Act is that it does not empower grants to be awarded to employers or training bodies to do so. By contrast, *Sweden* gives extra grant aid to firms who train women for non-traditional areas of employment. *Italy* has little evidence from the secondary sector on this but its new regional training programmes being developed by special committees may begin to encourage girls, at least in the North, to look for training as well as and not instead of a sound general education. An interesting example is that of the courses in construction skills recently organised for women by the local co-operatives in Ravenna.

3.20 The need for closer co-operation between employers and industry and teachers in schools is regularly and widely stressed. Two examples of interventionist positive discrimination in the *United Kindgom* illustrate the possibilities of pilot projects. The Engineering Industry Training Board set up a scheme to award 50 scholarships for girls only to attend a special diagnostic training course for girl technicians lasting four years. The girls (now in their second year) are making excellent progress. It must be said that many candidates who wished to be selected were rejected because they had inadequate (or almost non-existent) mathematics and physics. A second scheme was started by the Institution of Electrical Engineers who gave financial aid to teach sixth form girls (16 to 18 years) in South Wales the realities of Post Office engineering (planning, maintenance, installation, consumer advice) during their long summer holiday. This is a valuable new approach to careers work involving positive discrimination.

3.21 Although the concept has been mainly developed for vocational training, the principle is equally relevant to the main curricular areas. Special educational programmes should be considered not only to improve the numeracy of girls but the linguistic and creative education of boys, to counteract existing differences in aptitude or achievement, whether these are innate or conditioned.

RESTRUCTURING AND RETRAINING THE TEACHING FORCE

3.22 The teaching force has a double importance in the formation of any development programme. They are the most influential factor in children's learning and they represent their main adult models (apart from parents) in the formative years. There are four problems affecting the teaching staff. Firstly, the need to achieve a better overall sex balance in each sector of education (primary or first cycle, first and second stages of second level); secondly the concentration of women and men teachers in different areas of study thus reinforcing sex-typing of pupil attitudes; thridly the lack of and further decline in women in leadership (exacerbated by co-educational re-organisation); fourthly the need for substantial in-service re-education of teachers.

3.23 The achievement of a better sex balance in the teaching force and in particular the recruitment of women to leadership positions are problems of teacher deployment which could now become a major element in the planning of national educational policies as the teaching force declines with the fall in the birthrate and hence in the school population. Sweden experimented with teacher quotas to attempt a better sex balance in the late 1960's but later abandoned them. It is indeed educationally undesirable to designate posts as for men only or for women only, which could also run counter to the principle of the best person for the job, and to the requirements of anti-discrimination legislation in employment. Nevertheless, it is important that new and positive Staff Development Programmes should be formed which are aimed at analysing the barriers - administrative, social, psychological and domestic - which prevent women teachers from seeking or obtaining senior posts; and that the programmes are given wide support by employing authorities and schools.

3.24 The constant need for the re-education and retraining of teachers is self-evident and widely accepted. There are two central issues. Firstly, how to collect a pool of appropriately experienced trainers and to define a body of agreed knowledge and expertise, with which to inject in-service training programmes aimed at eliminating sex role stereotyping in Education. Secondly, how best to teach planners, administrators and teachers new methods of school organisation which remove structural barriers (to either sex) and which provide a totally equal and open curriculum, within limited resources and with inherited school buildings and staff, designed and trained for traditionally separate and often sexist education.

3.25 There is too little evidence on the actual content of teacher training courses but experts are widely agreed that all initial teacher training should in future include such material as the dimensions and characteristics of sex role stereotyping, new approaches to child psychology which question theories of innate mental or intellectual sex differences and diagnosis of and remedy for the adverse effect of the "hidden curriculum". An immediate problem is to identify experienced education experts in each country competent in these areas of study to teach and train others in turn. Ministers may well consider their responsibility to collect and support a panel of national specialists to act as trainers for both initial and in-service education of teachers, in this respect.

RESEARCH AND ENQUIRY - A DEVELOPMENT PLAN

3.26 One clear conclusion resulting from this survey is that there is too little research evidence on where girls are in the system, what their relative achievements are and in what their motivation and development differs from that of boys. There is an urgent need for a co-ordinated and planned programme of research; and for all educational statistics to be divided by sex at least for the next decade in order to allow effective monitoring. Research is also important in breaking some of the mythology which surrounds the sex inequality debate. An interesting example comes from *Ireland* counteracting the myth that girls are innately inferior in number skills. Following a test pgoramme carried out by the Drumcondra Educational Research Centre in 1975 56 inspectors tested pupil's mastery of different sections of the mathematical syllabus for senior classes with a view to re-examining the balance of different teaching methods and activities. One relevant finding was that out of the 3,989 pupils in 245 classes, throughout the test the answering of girls was superior to that of the boys notably in problem-solving, which is usually quoted by psychologists as girls' particular weakness. In no objective did boys answer more successfully and girls still scored better than boys even in the older age ranges. Yet Irish statistics show that while girls predominate in examinations for lower maths they drop out in intermediate or higher maths. The inservice education expansion programme recommended by the Irish Inspectorate should desirably contain advice on analysis and diagnosis of origins of sex differences and the relationship of teaching method and teachers' attitudes to girls' performance.

3.27 Some progress is evident. *Italy's* Ministry of Public Instruction has for example set up a research project at the Institute of Psychology of the University of Rome in the sex-typing of pupil choices and the conditioning factors which determine them. In the *Netherlands* a recent government statement confirms that research will now command higher priority :

"In the short term, research and information will be given priority within the emancipatory aspects of education policy. An important research project on the distribution of pupils in secondary schools *according to social background and sex* has recently got under way; *it will also be looking for the reasons behind the figures.* Information will to a large extent aim to provide guidance in the choice of schools and careers : for example, those giving careers guidance - teachers, student advisory officers, careers officers - must be aware of their own sets of values and not elevate them to the level of a general standard applicable to others." (75)

The National Foundation for Educational Research in the *United Kingdom* is considering a possible three-year research project to examine curricular differences between boys and girls in secondary schools (which cover all second-level education in the United Kindgom). The project would examine the factors which influence the subject choices and preferences of girls and boys in the first cycle of second level education in contrasting groups of schools with relatively high and low incidences of sex-stereotyping. A product of the research would be the publication of a manual of research-based guidance of pedagogic and organisational strategies for reducing sex stereotyping and the development of checklists for monitoring the pattern of subject preferences.

3.28 It is, arguably, desirable to concentrate on those girls most at risk. Such evidence as there is illustrates that, predictably, relatively more progress has been made by the academically gifted in the secondary years (although the higher drop-out rate of able girls at the end of the second cycle and in higher and advanced further education remains a constant area of concern). Stereotyping of choice of schools, of options for subject areas, of training and employment outlets, remains more acute for girls in the average and below-average bands of ability. Moreover, where there are potential added indices of deprivation (residence in a poorly provided area, lower social class, rural under-expectation), it is for the most part only girls either of higher intelligence or from middle or upper class background who can break the cycle of under-achievement. A concurrent need is for longitudinal surveys of girls and boys from contrasting social, intellectual and geographical groups to determine and to counteract the origins of allegedly innate and of conditioned sex differences.

3.29 The Community might also consider consulting with member states to seek the establisment of an overall research programme covering different aspects of the distribution, origins and educational implications of sex differences. Member states may usefully collate details of all educational research in their countries having a direct bearing on this subject with a view to improved interchange of

knowledge. There is no doubt that research findings and those of surveys need better dissemination. Inspectors and advisers should also be directed to make sure that any surveys into pupil achievement, curriculum organisation or school government and management should now include examination of sex differences. These results should then be published and used for the further in-service education of teachers.

3.30 It is important that, having completed International Women's Year and having now debated sex inequality in education, we do not now file away the first stage of this work as "dealt with" or concluded. Progress will be slow and monitoring difficult without continuing governmental action to improve statistics, analysis, knowledge and reforms. The unevenness of present evidence makes it difficult to draw firm conclusions. The complexity of nine different systems hinders achievement of overall evaluation. It would be valuable to seek more detailed reports on a reasonably common structured basis by say 1980 as the basis for a development plan for the following decade. The magnitude of the problem makes it unlikely that significant progress will be achieved without such an approach. Governments and educational planners need therefore to be convinced of the "respectability" of new ideas about women's status and equal roles in society for which we should be educating our girls; new ideas which the media (and others) are still inclined to trivialise.

3.31 The role of legislation and of Commissions or Councils to monitor social and legislative progress is likely to be part of any ensuing debate. The only country so far to include education and training in its anti-discrimination legislation is the *United Kindgom* under whose Sex Discrimination Act, 1975, the new Equal Opportunities Commission was set up with the following duties :

(a) to work towards the elimination of discrimination

(b) to promote equality of opportunity between men and women generally, and

(c) to keep under review the working of this Act and the Equal Pay Act, 1970, and, when they are so required by the Secretary of State or otherwise think it necessary, draw up and submit to the Secretary of State proposals for amending them.

It is too early to judge the effectiveness of either the Act or the Commission but there is some evidence that the inclusion of education and training in the Act and the powers of the EOC has caused local education authorities, schools and colleges and training bodies to examine and review their practices. This has in turn highlighted innovation and good practice in some more progressive schools or areas and revealed some weaknesses and undesirable traditions now therefore being publicly debated.

3.32 No continuing programme will of course be valid unless it is also supported by all partners in society, government, employers, unions and the public. The educative role towards social change has always been a responsibility of government. An important step in the development of a policy to further equality in the education of girls and women is to set all policies, diagnosis and remedy firmly in the context of policies *for both sexes*. A decade ago, as long ago as 1968, the Swedish Government declared that :

"A decisive and ultimate durable improvement in the status of women cannot be attained by special measures aimed at women alone; it is equally necessary to abolish the conditions which tend to assign certain privileges, obligations or rights to men. No decisive change in the distribution of functions and status as between the sexes can be achieved if the duties of the male in society are assumed *a priori* to be unaltered." (76)

This principle underlies both the philosophy and the evidence of this report.

YESTERDAY'S PUPILS - TOMORROW'S WOMEN

3.33 This report is principally written about today's girls. Both published and unpublished evidence however have also revealed substantial past under-achievement by the girls who have been educated during the last ten years or earlier in our schools and who are now women. An earlier report of this Commission highlighted the need to develop special programmes to enable women handicapped by deficient earlier education and training to make up for their lost opportunities. The well developed adult education programmes in the United Kingdom, the development of the new Dutch "Open School" system, the extensive Scandinavian community education programmes, for example, already contribute much to these. But unless we begin quickly to change the structure, bias and psychology of the education of the girls who are in our classrooms today, in order to raise their levels of aspiration, of achievement, and their access to traditionally male fields of training and work on leaving school, we will simply send out yet more young women to join the past "lost generation". It is uneconomic as well as socially doubtful continually to use resources for remedial work to correct past inadequacies in the education system, where prior diagnosis and prevention would have removed the need. We must not now neglect the lost generations but neither must we add to them.

3.34 In conclusion, the principle message of this introductory report remains that the need to achieve full equality in the education and training of girls must be seen as of imperative and urgent socio-political interest. Society can neither be built on, nor survive in,

social injustice. The art and science of government becomes yearly more complex as the rate of social and economic change in the twentieth century accelerates; and women's voice must increasingly be heard in government, for which girls must be educated. Society will only survive into the twenty-first century if we use, both in each country and at international level, all of the still latent skills and aptitudes of the girls and women who represent slightly more than 50 % of our population. If women have not been half our past they must now become half our future. It is their personal right; but it is our economic and social survival.

BIBLIOGRAPHY

(1) Standing Conference of European Ministers of Education, C.M.E./X (77) Conf. 38 rev.

(2) Swedish Ministry of Foreign Affairs. *The Status of Women in Sweden* report to United Nations, 1968

(3) Source : Unpublished report on Improvement of the Situation of the Education and professional Training of Women. The Federal Minister for Education and Science in the Republic of West Germany - December 8, 1977 (II A3/2861-2)

(4) *The Position of Women in Society*, Copenhagen, 1974 report of the Commission appointed by the Prime Minister, page 81

(5) Sullerot, Evelyn, *Les Françaises au travail*, p. 85, Hachette, 1973

(6) Lainé, Pascal, *La femme et ses images*, Paris, Stock, 1974

(7) *Women in Sweden*, Swedish Government 1976

(8) Eurostat : Education Statistics, 1976, p. 51

(9) Tussing, A. Dale. *Irish Educational Expenditure - Past, Present and Future*. The Economic and Social Research Institute, Dublin

(10) Department of Education - Statistical report 1976-77

(11) Letter from Danish Ministry of Education (19.1.78)

(12) Lainé, Pascal, *La femme et ses images*, Paris, 1974,p. 31

(13) L'Etude Magrip. Institut pédagogique, Luxembourg 1977

(14) Davie, Butler & Goldstein, *From Birth to Seven* Longman (London) 1974, report of the National Child Development Study

(15) Taylor & Ayres, *Born and Bred Unequal*, Longman 1974 (London)

(16) Social and Cultural Report 1976, Sociaal en cultureel planbureau, Riswijk, Netherlands, pp. 109-111 and p. 13

(17) *Social Objectives in Educational Planning*, O.E.C.D. 1967, pp. 220-223

(18) From Tables supplied by Danish Ministry of Education

(19) La scuola in Italia 1976 , Table 5, pp. 126-131

(20) Ibid.

(21) Dept. of Education Statistical Report 1976-77, Table 2

(22) Récapitulation des effectifs des élèves d'enseignement du second degré, 1976 (S.E.I.S.)

(23) Courrier de l'éducation nationale, B-6-76, Sept. 1976

(24) Statistische jaarboek van het onderwijs, 1976-77, Table 1

(25) From Tables supplied by Netherlands Ministry of Education

(26) Frauen und Bildung 1975, p. 19 (German Ministry of Education)

(27) Bildung in Zahlen Spiegel, Ausgabe 1977, Table 4.11, p. 69

(28) Grund-und Struktur Daten, 1977, Table 2, p. 26

(29) Netherlands Ministry of Education published statistics 1976-77, Table 8

(30) Report of the Dutch Ministry of *Education on Secondary school careers of boys and girls in the Netherlands*, November 1977

(31) Sources : DES Statistics of Education, 1961, part one, Table 24; and 1975, Vol. 1, Table II; and 1974, Vol. 2

(32) Ministère de l'éducation nationale; *Situation des filles dans l'enseignement secondaire et professionnel en France*, February 1978

(33) C.E.C. *Vocational Guidance and Training for women workers*, 24-28 November 1975, Paris

(34) Report, November 1977 from Netherlands Ministry of Education

(35) Statistical Report 1976-77, Department of Education, Dublin

(36) L'égalité des chances pour les femmes dans le système d'enseignement, Belgian Ministry of Education, French Branch, 22.2.78

(37) Statistisch jaarboek van het onderwijs, 1976-77

(38) Ibid

(39) La scuola in Italia, 1976, Table 7

(40) Censis quindicinale di notre e commenti 1977 Anno XIII, p. 87

(41) Ministry of Public Instruction, Italy, *The Educational Movement in the Years 1973-75* delivered at the XXV International Conference 1975, pages 28-29

(42) Bildung und Zahlen Spiegel, Ausgabe 1977, Table 4.11, p. 69

(43) Ibid. Table 5.1, p. 78

(44) Ibid. Table 5.6, p. 87

(45) Eurostat 1976 Statistics of Education, Table 3

(46) Note d'information 76.20, S.E.I.S.

(47) Ibid.

(48) Report of the Federal Minister for Education and Science (8.12.77) - op. cit.

(49) Ibid.

(50) Hunt, Audrey and Rauta, Irene, *Fifth form girls and their hopes for the future*, HMSO London 1975

(51) Ireland, Commission on the Status of Women, *Report to Minister for Finance*, 1972, page 207

(52) Department of Education, Dublin, *Statistical Report*, 1974-1976

(53) Sandberg, Elisabet, *"Equality is the Goal"*, Swedish Institute 1925, pp. 40-46

(54) French Ministry of Education, *La situation des filles dans l'enseignement secondaire et professionnel en France*, Feb. 1978

(55) Dutch Ministry of Education, op.cit.

(56) Ormerod and Duckworth. *Pupils' attitudes to Science*, NFER Publishing Co.; Dr Jan Harding, *Girls and Science Education*, Chelsea College, London, et al.

(57) Report of Swedish National Board of Education, 1976, *Sex Role questions and Programs for Equality*

(58) *See, for example, the Guidelines for equal treatment of the Sexes*, Published by the American McGraw Hill Publishing Company

(59) Belotti, Elena I. *Dalla parte delle bambine*, Feltrinelli Milan, 1973

(60) Sociaal en Cultureel Planbureau, 1977

(61) Note d'information 76-33, S.E.I.S. 1 Oct.1976

(62) Return from the Ministère de l'éducation, Feb. 1978

(63) Return from Irish Ministry of Education, Jan. 1978

(64) 1975, Statistics of Education, Department of Education and Science

(65) Return from Department of Education, Dublin, 1978

(66) Figures supplied by Scottish Education Department, letter (21.12.76)

(67) DES Statistics of Education

(68) *Equality of Treatment between men and women workers*, Communication of the Commission to Council COM(75)36, (12.2.75)

(69) There is a separate E.O.C. for Northern Ireland

(70) Bulletin of the European Communities Supplement, 12/76. From *Education to Working Life*

(71) Département socio-économique Peture, *Enquête sur la scolarisation au niveau 3e - CAP-BEP dans les arrondissements de Calais, Dunkerque et St Omer*

(72) Federal Minister for Education & Science, (FR Germany) II A 3-2861-2, *Report of Conference on Opportunities for the promotion of Education and Training of Girls and Women*, 8 December 1977, Bonn

(73) Act. N°313 of 26 June 1975 on the *Folkskole*

(74) C.E.C. *Vocational Guidance and Training for Women Workers*, report of Paris seminar 24-28 November 1975, p. 41

(75) Memorandum on Emancipation - *Emancipation of Women - a process of Change and Growth*, Netherland Second Chamber, States General 1976-77, 14 496

(76) Royal Swedish Ministry of Foreign Affairs, Report to United Nations on *The Status of Women in Sweden*, 1968

STUDIES

published so far in the Education Series (1):

CB-NO-77-001-EN-C – No. 1
The children of migrant workers
1977, 54 p. (DE, EN, FR, IT). UKL 1.30; USD 2.20; BFR 80.

CB-NO-77-002-EN-C – No. 2
Guidance and orientation in secondary schools
1977, 62 p. (DE, EN, FR). UKL 1.30; USD 2.20; BFR 80.

CB-NO-77-003-FR-C – No. 3
Le développement européen de l'éducation permanente
1977, 92 p. (FR). UKL 1.80; USD 3.20; BFR 100.

CB-NO-78-004-EN-C – No. 4
Management education in the European Community
1978, 70 p. (DE, EN, FR). UKL 1; USD 2; BFR 65.

CB-NO-78-005-EN-C – No. 5
Pupil exchange in the European Community
– Venice Colloquium, 24-28 October 1977
1978, 68 p. (DA, DE, EN, FR, IT, NL). UKL 6; USD 12; BFR 360.

CB-NO-78-006-FR-C – No. 6
Nouveaux modèles d'enseignement supérieur et égalité des chances: prospectives internationales
1978, 132 p. (FR, DE: in preparation). UKL 2.10, USD 3.90; BFR 125.

CB-NO-78-007-EN-C – No. 7
Joint programmes of study: an instrument of European cooperation in higher education
1979, 188 p (EN; DA, DE, FR, IT, NL: in preparation)
UKL 3.40; USD 6.70; BFR 200.

CB-NO-79-008-EN-C – No. 8 (in preparation)
In-service education and training of teachers in the European Community
1979 (DE, EN, FR: in preparation)

CB-NO-78-009-EN-C – No. 9
Equality of education and training for girls (10 - 18 years)
1979, 80 p (DA, DE, EN, FR, IT, NL: in preparation)
UKL 2.10; USD 4.20; BFR 125.

(1) The abbreviations after each title indicate the languages in which the documents have been published: DA = Danish, DE = German, EN = English, FR = French, IT = Italian, NL = Dutch.

European Communities – Commission

Equality of education and training for girls (10 – 18 years)

Luxembourg: Office for Official publications of the European Communities

1979 – 92 pp. – 17,6 x 25 cm

Collection Studies, Education Series – 1979 – 9

DA, DE, EN, FR, IT, NL

ISBN 92-825-0975-3

Catalogue number: CB-NO-78-009-EN-C

BFR 125	DKR 22	DM 8	FF 18,25
LIT 3550	HFL 8,60	USD 4.20	UKL 2.10

The education systems have a vital role to play in the achievement of greater equality between men and women in the employment field in particular and in society in general.

This report investigates the extent, the character and the causes of inequality of opportunity as they arise in the education and training of girls in the Member States of the Community. It demonstrates that sex discrimination in education has not yet been eliminated. It documents the gross under-participation of girls, particularly in vocational education and in recruitment to higher education.

Various barriers to equality are identified and analysed, with special emphasis on those factors which can be altered, removed or influenced by educational authorities. The report points out how the structure of second level education and the organisation of the curriculum, as regards both optional and compulsory subjects, can have a profound influence on the training and employment opportunities open to girls at the end of the period of compulsory education. It is shown how, within the social and psychological environment created by schools, the teaching force can, in a less tangible way, play a significant role in counteracting the behaviour patterns which spring from social conditioning about sex roles.

Throughout the report, suggestions are made as regards a strategy for intervention by educational authorities, at national or Community level with particular emphasis being placed on the problem of the aggregation of inequality – by sex, class and region.

Salgs- og abonnementskontorer · Vertriebsbüros · Sales Offices
Bureaux de vente · Uffici di vendita · Verkoopkantoren

Belgique - België

Moniteur belge – Belgisch Staatsblad

Rue de Louvain 40-42 –
Leuvensestraat 40-42
1000 Bruxelles – 1000 Brussel
Tél. 512 00 26
CCP 000-2005502-27
Postrekening 000-2005502-27

Sous-dépôts – Agentschappen:

Librairie européenne – Europese Boekhandel
Rue de la Loi 244 – Wetstraat 244
1040 Bruxelles – 1040 Brussel

CREDOC

Rue de la Montagne 34 - Bte 11 –
Bergstraat 34 - Bus 11
1000 Bruxelles – 1000 Brussel

Danmark

J.H. Schultz – Boghandel

Møntergade 19
1116 København K
Tlf. (01) 14 11 95
Girokonto 200 1195

Underagentur:

Europa Bøger
Gammel Torv 6
Postbox 137
1004 København K
Tlf. (01) 14 54 32

BR Deutschland

Verlag Bundesanzeiger

Breite Straße – Postfach 10 80 06
5000 Köln 1
Tel. (0221) 21 03 48
(Fernschreiber: Anzeiger Bonn 8 882 595)
Postscheckkonto 834 00 Köln

France

Service de vente en France des publications des Communautés européennes

Journal officiel

26, rue Desaix
75732 Paris Cedex 15
Tél. (1) 578 61 39 – CCP Paris 23-96

Sous-agent

D.E.P.P. – Maison de l'Europe
37, rue des Francs-Bourgeois
75004 Paris
Tél.: 887 96 50

Ireland

Government Publications

Sales Office
G.P.O. Arcade
Dublin 1

or by post from

Stationery Office

Beggar's Bush
Dublin 4
Tel. 68 84 33

Italia

Libreria dello Stato

Piazza G. Verdi 10
00198 Roma – Tel. (6) 8508
Telex 62008
CCP 1/2640

Agenzia

Via XX Settembre
(Palazzo Ministero del tesoro)
00187 Roma

Grand-Duché de Luxembourg

Office des publications officielles des Communautés européennes

5, rue du Commerce
Boîte postale 1003 – Luxembourg
Tél. 49 00 81 – CCP 19190-81
Compte courant bancaire:
BIL 8-109/6003/300

Nederland

Staatsdrukkerij- en uitgeverijbedrijf

Christoffel Plantijnstraat, 's-Gravenhage
Tel. (070) 62 45 51
Postgiro 42 53 00

United Kingdom

H.M. Stationery Office

P.O. Box 569
London SE1 9NH
Tel. (01) 928 69 77, ext. 365
National Giro Account 582-1002

United States of America

European Community Information Service

2100 M Street, N.W.
Suite 707
Washington, D.C. 20 037
Tel. (202) 862 95 00

Schweiz - Suisse - Svizzera

Librairie Payot

6, rue Grenus
1211 Genève
Tél. 31 89 50
CCP 12-236 Genève

Sverige

Librairie C.E. Fritze

2, Fredsgatan
Stockholm 16
Postgiro 193, Bankgiro 73/4015

España

Libreria Mundi-Prensa

Castelló 37
Madrid 1
Tel. 275 46 55

Andre lande · Andere Länder · Other countries · Autres pays · Altri paesi · Andere landen

Kontoret for De europæiske Fællesskabers officielle Publikationer · Amt für amtliche Veröffentlichungen der Europäischen Gemeinschaften · Office for Official Publications of the European Communities · Office des publications officielles des Communautés européennes · Ufficio delle pubblicazioni ufficiali delle Comunità europee · Bureau voor officiële publikaties der Europese Gemeenschappen

Luxembourg 5, rue du Commerce Boîte postale 1003 Tél. 49 00 81 · CCP 19 190-81 Compte courant bancaire BIL 8-109/6003/300